

# Environment Of Care Annual Report Fiscal Year 2017-2018

## Approvals:

Environment of Care Committee: August 29<sup>th</sup>, 2018

Medical Executive Committee: September 20<sup>th</sup>, 2018

Nursing Executive & Patient Care Services Committee: September 21<sup>st</sup>, 2018

PIPS Committee: September 26<sup>th</sup>, 2018

## **Presentation & Review Schedule:**

Joint Conference Committee: September 25<sup>th</sup>, 2018

San Francisco Health Commission:

*This Page Blank to Allow For 2-Sided Printing*

# INTRODUCTION

The goal of the Zuckerberg San Francisco General Hospital & Trauma Center (ZSFG) Environment of Care (EOC) Program is to provide a safe, functional, and effective environment for the care of patients, as well as for staff and visitor use. The EOC Program encompasses the following seven programs/areas:

- Emergency Management (Lann Wilder – Director of Emergency Management)
- Fire & Life Safety Management (Greg Chase – Director of Facilities Services)
- Hazardous Materials and Waste Management (Mike Harris – Senior Industrial Hygienist)
- Medical Equipment Management (Jose Sanchez – Director of Biomedical Engineering)
- Safety Management (Ed Ochi – Safety Officer)
- Security Management (Basil Price – SF DPH Director of Security)
- Utility Systems Management (Greg Chase – Director of Facilities Services)

The EOC Program is managed by the EOC Committee. The EOC Committee is a multi-disciplinary group which is focused on the continuous improvement of all aspects of the Environment of Care.

Activities of the EOC Committee include:

- Identifying risks and implementing systems that support safe environments,
- Working to ensure that hospital staff are trained to identify, report, and take action on environmental risks and hazards,
- Setting and prioritizing the hospital's EOC goals and performance standards and assessing whether they are being met, and
- Working to ensure the hospital is compliant with the EOC-related requirements of all applicable regulatory bodies.

Membership of the EOC Committee is comprised of:

- Program managers for each of the seven EOC Management Programs, as listed above
- Representatives from:
  - Clinical Laboratories (Andy Yeh),
  - Dept. of Education & Training (Kala Garner),
  - Environmental Services (Francisco Saenz),
  - Infection Prevention & Control (Elaine Dekker),
  - Nursing (Andrea Chon),
  - Patient Safety (Tom Holton), and
  - Pharmaceutical Services (Julie Russell)

EOC projects and initiatives include opportunities for improvement identified during ongoing hazard surveillance, risk assessment, and other EOC activities to promote a culture of safety awareness.

As of August 2018, Greg Chase and Ed Ochi serve as Co-Chairs of the EOC Committee.

The EOC Annual Report highlights the activities of the EOC Program during Fiscal Year 2017-2018. For each of the seven EOC chapters, it is organized as follows:

- Scope,
- Accomplishments,
- Program Objects,
- Performance Metrics, and
- Goals and Opportunities for Improvement

New to the report this year is a chapter (“Unsung Heroes of the Environment of Care Committee”) detailing contributions, accomplishments, and challenges from Departments (Education & Training, Environmental Services, Infection Prevention & Control, and Pharmaceutical Services) who devote time and resources to ZSFG EOC activities, but do not have traditional Joint Commission mandated chapters in the report.

# Unsung Heroes of the Environment of Care Committee

Traditionally, the Environment of Care (EOC) Annual Report consists of seven chapters which align with Joint Commission requirements for management of a hospital's EOC. Reflecting ZSFG's strong emphasis on collaboration and a shared mission and vision, EOC activities at ZSFG include far more than these seven chapter heads and their programs, with other program participants working hard behind the scenes, without getting recognition for their valuable contributions. This section identifies some of these participating groups, their EOC activities in the past year, their accomplishments, and challenges:

## Department of Education and Training (DET):

### Major EOC Activities

- DET is responsible for managing all education and training activities related to Workplace Violence Prevention. This includes: development of curriculum, implementation; managing multi-discipline training team; tracking compliance and training evaluation.
- DET collaborates with EOC stakeholders to develop Annual Education material for staff.
- DET participates in the twice a month EOC Rounds to identify education and training gaps.

### Accomplishments

- In the past year, 2210 staff have completed the Crisis Prevention Institute-based Workplace Violence Prevention (WPVP) training.
- Developed an Emergency Response quick-reference sticker for the back of ID badge position identifier cards ("badge buddies"). As validated during EOC Rounds, this sticker has been found to be effective as an always available quick reference guide for emergency contacts.
- Developed a Code Tan online training module and FAQ.

### Challenges

- There is a shortage in facilitators to effectively implement regulation-mandated WPVP training. Currently, the training efforts are supported by 10 facilitators to provide training 2-hour training for the entire hospital. Additionally, due to competing priorities recruitment of new trainers has been difficult. Adding trainers from all major units/departments would not only relieve current trainers, but they can also act as leads/resource person for their specific unit/department.

## **Department of Environmental Services (EVS)**

### Major EOC Activities

- EVS ensures that all areas are clean, safe and healthy for our patients, staff and visitors at ZSFG.
- EVS participates in the twice a month EOC Rounds to identify and resolve specific unit issues and recognize staff performance.

### Accomplishments

- EVS participated in a joint San Francisco Chapter of the Association for Professionals in Infection Control and Epidemiology (APIC) and Association for the Healthcare Environment (AHE) performance improvement project to implement standardized best practices for cleaning and disinfection in our intensive care units and operating rooms. This project resulted in improved patient and staff satisfaction scores as well as visible improvements in floor cleaning and overall reduced supply costs. EVS is now working to expand the improvements throughout the hospital.

### Challenges

- Ensuring sufficient coverage for all essential services in the acute care areas and clinics as well as the ongoing dynamic improvement and capital projects throughout the campus.

## **Department of Infection Prevention & Control (IC)**

### Major EOC Activities

- IC provides technical guidance and oversight to the Environmental Services Department. This includes the review and revision of policies and procedures, ensuring safe and effective chemicals are selected/used for achieving disinfection, assisting in the development of a new Porter orientation program, and providing a reporting methodology for tracking compliance and effectiveness of cleaning processes.
- IC obtains input from EOC stakeholders to develop and update annual infection prevention and control educational material for staff.
- In addition to daily IC rounding, IC participates in the twice a month EOC Rounds to identify infection prevention and control issues and process gaps.

### Accomplishments

- Introduced and supported EVS in their participation in a joint San Francisco Chapter of the Association for Professionals in Infection Control and Epidemiology (APIC) and Association for the Healthcare Environment (AHE) pilot project. The objective was to support reliable design (standardization of evidence-based practices) of environmental cleaning and disinfection in local hospitals to reduce the risk of healthcare associated infections (HAIs). The project was successfully

completed, resulting in an increase in patient and staff satisfaction, HCAHPS and e-Videon (patient satisfaction) scores.

### Challenges

- There are multiple competing “high priority” issues and projects which make it difficult for IC to establish stable partnerships with the various departments, e.g. nursing, EVS, Facilities and the ORs, to allow for CQI activities. Examples of these issues include high patient census, implementation of the new electronic healthcare record (EHR) system, and the multiple current and planned construction activities across the campus.

## **Department of Pharmaceutical Services (DPS, “Pharmacy”)**

### Major EOC Activities

- DPS is responsible for ensuring the safety and integrity of pharmaceuticals in medication rooms to comply with the various regulatory requirements (eg. Board of Pharmacy, CDPH-Title 22, TJC). This includes: checking the medication room for proper labeling and storage, access to pertinent information (eg. LASA list, High Alert medications list, Do Not Crush list), security of emergency drug supplies.
- DPS participates in the twice a month EOC Rounds to identify medication labeling and storage issues and gaps.

### Accomplishments

- Streamlined inspection checklist to increase efficiency and to standardize what elements to look for among 7-8 pharmacy managers who participate in the EOC rounds

### Challenges

- Medication room size and configuration variations from one nursing unit to another, making it difficult to standardize storage processes.
- Repeat occurrences of the same findings during EOC Rounds (eg. Undated IV bags out of their protective wrap)

In addition to the listed groups, Andrea Chon, RN, MSN, the nursing liaison for EOC activities requires special recognition for actively and aggressively participating in EOC rounds, and taking information and issues raised at EOC Committee meetings back to her peers with nursing management and leadership. Other persons supporting EOC activities on a routine basis include:

- Annette Munoz, Security
- Cheryl Kalson, Regulatory Affairs (*Retired*)
- Eunice Santiago, Biomedical Engineering
- Gemma Cohen, Bloodborne Pathogen/Safe Device Committee
- Jessica Galens, Pharmaceutical Services

- Lalu Bourey, Quality Management / Regulatory Affairs
- Louis Moreno, Environmental Services
- Manuel Catam, Patient Safety
- Mariel Lontoc, Infection Prevention & Control
- Priyanka Karki, Dept. of Education & Training
- Reyland Manatan, Environmental Services
- Sandra Ladley, Quality Management
- Vilma Barrera, Infection Prevention & Control

# EMERGENCY MANAGEMENT

## SCOPE

The Emergency Management Program provides information, planning, consultation, training, resources, and exercises for hospital staff and leadership to ensure that Zuckerberg San Francisco General Hospital and Trauma Center (ZSFG) effectively mitigates the impact of, prepares for, responds to, and recovers from emergencies and disasters and therefore is able to sustain its Mission of providing quality healthcare and trauma services with compassion and respect. These efforts support ZSFG's core value of patient and staff safety as well as the accountability goal of complying with regulatory standards. The Director of Emergency Management develops and implements policies, procedures, protocols, standard work and other job aids in accordance with:

- California Administrative Code Disaster and Mass Casualty Program (Title 22)
- The National Incident Management System (NIMS) and the California Standardized Emergency Management System (SEMS)
- The Joint Commission Standards and Elements of Performance.

The Emergency Management Program encompasses all departments and areas of the ZSFG campus, including those at the Behavioral Health Center.

## ACCOMPLISHMENTS

- Optimized use of the Everbridge Emergency Notification System and increased the number of staff subscribed to the system by 29%.
- Worked with DPH PHEPR and the ZSFG Trauma Team to train Stop the Bleed instructors for other San Francisco hospitals as well as provide them response kits and training materials to continue our campaign to train members of the public in basic bleeding control methods.
- Implemented Code Tan response procedures to ensure patient, visitor and staff safety during high profile traumatic incidents, while providing coordinated multidisciplinary care and support for victims' family members and loved ones.
- Invited to serve on the Hospital Incident Command System (HICS) National Advisory Committee, working on reviewing and updating the national standards for how hospitals and other healthcare agencies manage emergencies and disaster.
- Continued to provide HICS Basics training for ZSFG managers and supervisors.
- Exercises: ZSFG participated in one full-scale mass casualty exercise including decontamination of patients from a radioactive materials incident, departmental earthquake preparedness drills for the Great California ShakeOut, a City-wide Medical Surge Tabletop Exercise, and the Fleet Week Medical Exercise with the US Navy, California Emergency Medical Services Authority, the San Francisco Department of Public Health and Department of Emergency Management.

- Actual Incidents: Clinical and HICS Incident Management Teams also effectively and successfully managed two extreme heat events, mutual aid support for the North Bay fires, a steam sterilizer failure, two high patient census and acuity incidents, an arson/bomb threat and firecrackers incident, an extended labor action impacting UCSF staffing at ZSFG, several planned and unplanned computer system downtime incidents, and a proactive activation for potentially volatile protests.

## PROGRAM OBJECTIVES FOR FY 2017-2018

Objectives	Met/ Not Met	Comments and Action Plans
The hospital conducts an annual hazard vulnerability analysis (HVA) to identify potential emergencies that could affect demand for the hospital's services or its ability to provide those services, the likelihood of those events occurring, and the potential impact and consequences of those events. The HVA is updated when significant changes occur in the hospital's services, infrastructure, or environment.	<b>Met</b>	Updated 1/23/18 and shared with SFSD, SFFD, SFPD, DPH, the SF Department of Emergency Management and other SF hospitals on 5/02/18.
The hospital develops and maintains a written all-hazards Emergency Operations Plan that describes the response procedures to follow when emergencies occur. The plan and associated tools facilitate management of the following critical functions to ensure effective response regardless of the cause or nature of an emergency: <ul style="list-style-type: none"> <li>• Communications</li> <li>• Resources and Assets</li> <li>• Safety and Security</li> <li>• Staff Responsibilities and Support</li> <li>• Utilities and Critical Systems</li> <li>• Patient Clinical and Support Activities</li> </ul>	<b>Met</b>	ZSFG's Emergency Operations Plan was reviewed and approved with no revisions recommended after significant changes the prior year.
The hospital implements its Emergency Operations Plan when an actual emergency occurs.	<b>Met</b>	Extreme Heat, High Census and Labor Action Incidents
ZSFG's emergency response plan and incident command system facilitate an effective and scalable response to a wide variety of emergencies and are integrated into and consistent with the Department of Public Health Disaster Plan and the City and County of San Francisco Emergency Operations Plan, and are compliant with the California State Standardized Emergency Management System (SEMS) and the National Incident Management System (NIMS).	<b>Met</b>	Demonstrated plan effectiveness and scalability during the Vigilant Guardian Regional Exercise, Extreme Heat and High Census incidents and internal activations for downtime procedures.
The hospital trains staff for their assigned emergency response roles.	<b>Met</b>	<ul style="list-style-type: none"> <li>• New Employee Orientation</li> <li>• Annual Halogen Emergency Preparedness &amp; Disaster Response Training</li> <li>• HICS Basics Training</li> </ul>

The hospital conducts exercises and reviews its response to actual emergencies to assess the appropriateness, adequacy and effectiveness of the Emergency Operations Plan, as well as staff knowledge and team performance.	<b>Met</b>	Completed After Action Reports and performance evaluations of seven actual emergencies, one table top City-wide and one regional full-scale exercise.
Annual evaluations are conducted on the scope, and objectives of this plan, the effectiveness of the program, and key performance indicators.	<b>Met</b>	Annual Evaluation by Disaster Committee completed on 8/09/18.

The Disaster Committee and the Environment of Care Committee have evaluated these objectives and determined that they have been met. The program continues to direct emergency management preparedness and response in a positive and proactive manner.

## PERFORMANCE METRICS

An analysis of the program objectives and key performance indicators is used to identify opportunities to improve performance and evaluate the effectiveness of the program. This analysis provides the Disaster and Environment of Care Committees with information that can be used to update the Emergency Management program activities. The following are current performance metrics:

Performance Metrics	2017-2018 Goal	2017-2018 Results	Comments & Action Plan
<b>During Exercises and Actual Incidents, Staff will Complete Appropriate Documentation.</b> <ul style="list-style-type: none"> <li>HICS Job Action Sheets</li> <li>HICS Forms</li> <li>Communication of Incident Action Plan</li> </ul>	<b>95%</b> <b>95%</b> <b>95%</b>	<b>97%</b> <b>97%</b> <b>100%</b>	<b>Met.</b> Continuing HICS trainings for staff to reinforce improvements made.
<b>Implement Guidelines for Determining the Level of HICS Activation for various types of incidents.</b>	<b>100%</b>	<b>100%</b>	<b>Met.</b> Developed and implemented Guidelines for HICS Activation Levels for various types of incidents and emergencies.
<b>Management Team Staff Will Complete ICS Training.</b> Percentage of Designated Managers and Supervisors who have completed: <ul style="list-style-type: none"> <li>ICS 100 – 200 – 700</li> <li>HICS Basics</li> </ul>	<b>90%</b> <b>90%</b>	<b>(46%)</b> <b>(79%)</b>	<b>Partially Met.</b> Continue providing HICS Basics and follow up to ensure completion of required FEMA ICS courses.
<b>Increase Number of Staff Enrolled in Everbridge Emergency Notification System.</b> (Baseline 3967 Staff, 24% Enrolled)	<b>4500</b> <b>35%</b>	<b>5112</b> <b>38%</b>	<b>Met.</b> Efforts to increase number of UCSF Staff to be included have been particularly effective, as have enrollment invitations after significant events.
<b>Improve Staff Response to Everbridge Alerts.</b> (Baseline 10% in FY 16-17)	<b>35%</b>	<b>25%</b>	<b>Partially Met.</b> Improved, but did not realize impediments to staff acknowledging alerts (cell phone dead zones, phones not allowed in certain areas, etc.).

<b>Implement at Least 90% of Corrective Actions Identified in FY 2015-2017 Exercises and Actual Incidents by 6/30/18.</b>	<b>90%</b>	<b>94%</b>	<b>Met.</b> A total of 102 issues were been identified in the prior three years, with corrective actions completed or ongoing for 94%. 24 additional issues identified in FY 17-18, with 63% already corrected.
<b>Develop and Implement a Hazard Specific Plan for Response to Extreme Heat Events</b>	<b>100%</b>	<b>100%</b>	Drafted and implemented Hazard Specific Plan for Extreme Heat Events. Thus far, no extreme heat events have occurred in SF since implementation.

## EFFECTIVENESS

The Emergency Management program has been evaluated and is considered to be effective by both the Disaster Committee and the Environment of Care Committee. The program continues to direct and promote emergency and disaster preparedness and response capabilities in a proactive manner.

## GOALS AND OPPORTUNITIES FOR IMPROVEMENT IN 2018-2019

- Continue providing training on the Hospital Incident Command System (HICS) for all Incident Management Team members, department supervisors and management level staff.
- Improve the effectiveness of the Everbridge Emergency Notification System.
- Improve Code Tan Response.

The proposed performance metrics for these goals include:

<b>Emergency Management Proposed Performance Metrics for 2018-2019</b>	<b>Target</b>	<b>Comments &amp; Action Plan</b>
<b>Specific Staff Will Complete Required Training in ICS.</b> Total Current Staff who have completed: <ul style="list-style-type: none"> <li>• ICS 100 – 200 – 700 46%</li> <li>• HICS Basics 79%</li> </ul>	<b>90%</b> <b>90%</b>	<b>Driver Metric.</b> Focus follow-up to ensure that the staff in designated manager and supervisor roles have completed all required Incident Command System training.
<b>Decrease the number of staff with missing or inaccurate contact information in the Everbridge Notification System resulting in “undeliverable” messages.</b> (Baseline 3.7% undeliverable)	<b>&lt; 1%</b>	<b>Driver Metric.</b> Needed to ensure rapid and consistent notification of staff as well as informational updates and directives for critical actions.
<b>Conduct Everbridge Training for SFSD Watch Commanders and ZSFG Administrators on Duty (AODs) and Operators to ensure timely dispatch of emergency messaging.</b> <ul style="list-style-type: none"> <li>• SFSD Staff Trained</li> <li>• AODs Trained</li> <li>• Operators Trained</li> </ul>	<b>6</b> <b>6</b> <b>8</b>	<b>Driver Metric.</b> Needed to ensure rapid and consistent notification of staff 24/7.
<b>Develop and Implement Code Tan Drill</b>	<b>100%</b>	<b>Driver Metric.</b> Evaluation criteria will include

<b>Evaluation Criteria and Conduct at Least Two (2) Code Tan Drills.</b>	<b>2</b>	measurement of equity and family support, and performance will be reviewed in the next annual report.
<b>During Disaster Exercises and Actual Incidents, Staff will Complete Appropriate Documentation.</b> <ul style="list-style-type: none"> <li>• HICS Job Action Sheets</li> <li>• HICS Forms</li> <li>• Communication of Incident Action Plan</li> </ul>	<b>95%</b> <b>95%</b> <b>95%</b>	<b>Watch Metric.</b> Continuing focus on standard work and required check-out procedures to ensure training of new Incident Management Team members and thorough communication and appropriate documentation.
<b>During Code Pink Drills and Actual Incidents, ZSFG Staff will cover designated posts and report appropriate information immediately.</b> <ul style="list-style-type: none"> <li>• Designated Posts Covered</li> <li>• Sightings of Child Reported to 64911</li> <li>• Departmental Search Results Reported</li> </ul>	<b>90%</b> <b>100%</b> <b>90%</b>	<b>Watch Metric.</b> Code Pink response monitoring is shifting from Security to Emergency Management.

*This Page Intentionally Left Blank*

# FIRE & LIFE SAFETY MANAGEMENT

The Life Safety Management Plan demonstrates comprehensive understanding, application, and adherence to the latest life safety codes of the National Fire Protection Association (NFPA), State & local authorities, and as required by various other regulatory bodies, e.g., CMS & The Joint Commission, et. al. The Life Safety Management plan is designed to ensure an appropriate, effective response to fire emergencies that could endanger the safety of patients, staff & visitors, and the Zuckerberg San Francisco General care environment (ZSFG).

## SCOPE

The Life Safety Management Program applies to all 15 buildings on the ZSFG campus (approximately 1.8m sqft of floor space), including all construction projects. Notification and response to any event includes the ZSFG Fire Marshal, Facility Services staff, and hospital leadership.

## ACCOMPLISHMENTS

- Completed annual test, inspection, and repairs to fire and smoke dampers on the 4<sup>th</sup> & 5<sup>th</sup> floors in Bldg 5 per NFPA standards: required every four years. The intent is to test and inspect two floors per year to maintain compliance at a minimal and predictable financial cost. The ZSFG HVAC crew has made repairs per the inspection report, and provided damper access to previously inaccessible dampers.
- Completed annual test, inspection, and repairs to fire and smoke dampers on the 7<sup>th</sup> & 6<sup>th</sup> floors in Bldg 25 per NFPA standards: required every six years. The intent is to test and inspect two floors per year to maintain compliance at a minimal and predictable financial cost. The ZSFG HVAC crew has made repairs per the inspection report.
- Annual HVAC smoke control testing and repairs was completed in February. Smoke control testing, in addition to being an LS requirement, demonstrates a safe and reliable smoke control system.
- Assessed risks at and around various transition construction projects; implemented Interim Life Safety Measures (ILSM) as necessary. Continuous project monitoring enhances the care experience in addition to providing a quality, and safe patient care environment.
- Utilized many False Fire Alarms on the ZSFG Campus, especially in Bldg 25 as an opportunity to train staff on fire life safety features of the Campus, and familiarize responding crews with SFFD to our new hospital.
- Recertified 15 Engineers in Fire Pump testing and operations for Bldg 25.

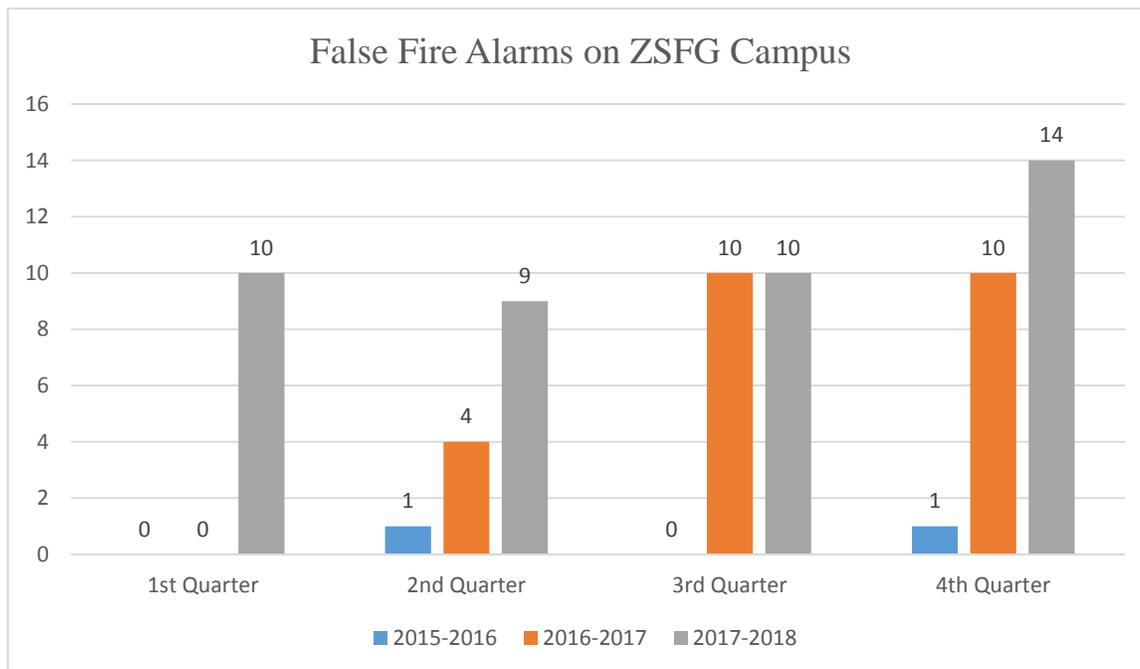
## PROGRAM OBJECTIVES

Objectives	Met/ Not Met	Notes/Action Plan(s)
The Fire Plan defines the hospital's method of protecting patients, visitors, and staff from the hazards of fire, smoke, and other products of combustion and is reviewed and evaluated at least annually.	Met	At a minimum, annually review the SFGH Fire Plan. Problems are assessed, and addressed for impact to the hospital's core values of safety, responsibility.
The fire detection and response systems are tested as scheduled, and the results forwarded to the EOC Committee quarterly.	Met	The Campus Fire Alarm system serving SFGH is routinely maintained, tested and repaired as necessary.
Summaries of identified problems with fire detection, NFPA code compliance, fire response plans, drills and operations in aggregate, are reported to the EOC Committee quarterly.	Met	Any problems or deficiencies of the fire alarm system are reported in the quarterly Environment of care (EOC) report.
Fire Prevention and Response training includes the response to fire alarms at the scene of the fire alarm, critical locations of the facility, the use of the fire alarm system, processes for relocation and evacuation of patients if necessary, and the functions of the building in protection of staff and patients.	Met	All fire drills required for the facility have been conducted per schedule. Staff training in response and system devices are covered as part of the drill.
Fire extinguishers are inspected monthly, and maintained annually, are placed in visible, intuitive locations, and are selected based on the hazards of the area in which they are installed.	Met	Fire extinguishers are inspected and maintained as required. All extinguisher types are appropriate to their use and location.
Annual evaluations are conducted of the scope, and objectives of this plan, the effectiveness of the programs defined, and the performance monitors.	Met	Items monitored in the annual report and fire drills are assessed for effectiveness and improvement.

## PERFORMANCE METRICS

Life Safety Management Performance Metrics	2017 3 <sup>rd</sup> Qtr.	2017 4 <sup>th</sup> Qtr.	2018 1 <sup>st</sup> Qtr.	2018 2 <sup>nd</sup> Qtr.	Target	Comments and Action Plan
Quarterly Fire Drills; a minimum of 6 per quarter - one fire drill per shift, w/ completed department evaluation forms.	10	11	9	7	Minimum of 6 drills per quarter; 2 per shift	Target achieved; extra drills due to interim life safety measures, or for training. Discussed issues uncovered during drills and took corrective actions.
False fire alarms	10	9	10	14	5 or less false alarms per year	Target <b>not met</b> - monitor for trends. Extend false fire alarms goal at less than 10 for the year.
Post Drill knowledge test score	99%	99%	99%	99%	95%	Test scores exceed target expectations for emergency response procedures. Reflect that staff understand proper emergency response procedures.

**Aim:** For FY 2017-18, false fire alarms on campuses extended to 10 per year or fewer.



Target of five or less false fire alarms for FY 2017-18 has been **not been met**.

The rise in false fire alarms is directly related to smoking in Bldg 25 patient care bathrooms.

## EFFECTIVENESS

The Life Safety Management Program is effective, but needs improvement based on the objectives and performance metrics indicated in the Plan.

### GOALS AND OPPORTUNITIES FOR IMPROVEMENT IN 2018-19

- Monitor and manage false fire alarms for a quality and safe care experience in Bldg 25. This can be accomplished through staff education, training, and engagement.
- Monitor on-going construction projects on the ZSFG Campus. File the appropriate Risk Assessments for a quality, and safe care experience.
- Continue planning and implementing fire alarm upgrade funded by the 2016 bond.
- Continue training Hospital staff on safety equipment, the fire plan, and fire life safety systems in Bldg 25.
- Engage staff and contractors to implement projects funded by the 2016 bond measure.

Proposed Performance Metrics for 2018-19	Target	Comments and Action Plan
<b>AIM:</b> manage and reduce false fire alarms in Bldg 25 to a more acceptable level through staff training.	<b>10 or fewer false fire alarms per year.</b>	Implement staff trainings on the fire alarm system in Bldg 25.
<b>AIM:</b> Engage staff and contractors to review & implement the 2016 bond measure projects pertaining to the fire alarm system.	<b>Provide ZSFG staff oversight for all projects.</b>	Involve stake holders in project implementation.

# **HAZARDOUS MATERIALS & WASTE MANAGEMENT**

The Hazardous Materials and Waste Management Program is designed to minimize the risk of injury and exposure to hazardous materials through proper selection, use, handling, storage and disposal. The program also works to control the risk of exposures to hazardous components such as asbestos and lead in existing building materials which may be disturbed during construction and renovation activities. The program assures compliance with all applicable local, State, and federal codes and regulations.

## **SCOPE**

The Hazardous Materials and Waste Management Program applies to the entire campus of San Francisco General Hospital and Trauma Center (ZSFG) with the exception of UCSF research activities. The Hazardous Materials and Waste Program also works to ensure that construction activities do not result in patient, staff, or visitor exposures to potentially hazardous materials or processes.

## **ACCOMPLISHMENTS**

- Continued to work with Capital Projects, ZSFG Facilities, and Infection Control to allow construction within operating hospital buildings as well as in very close proximity to staff, patients, and visitors without significant incidents or exposure concerns.
- Maintained ZSFG Environmental Permits, and acted as liaison between regulatory agencies including the TJC, SF PUC, DPH Hazardous Materials Unified Program Agency, and Cal/OSHA and ZSFG. Continued to work with ZSFG management and staff regarding Cal/OSHA regulations, policies, and practices and assisted in responding to inquiries from Cal/OSHA regarding concerns about working conditions.
- Trained Oncology Nurses on the proper use of chemotherapy agent spill cleanup kits.
- Partnered with HR to develop a strategy for the implementation of the new Respiratory Protection Program facial hair policy.
- Achieved a 20% reduction in the average weekly pharmaceutical waste disposal cost.

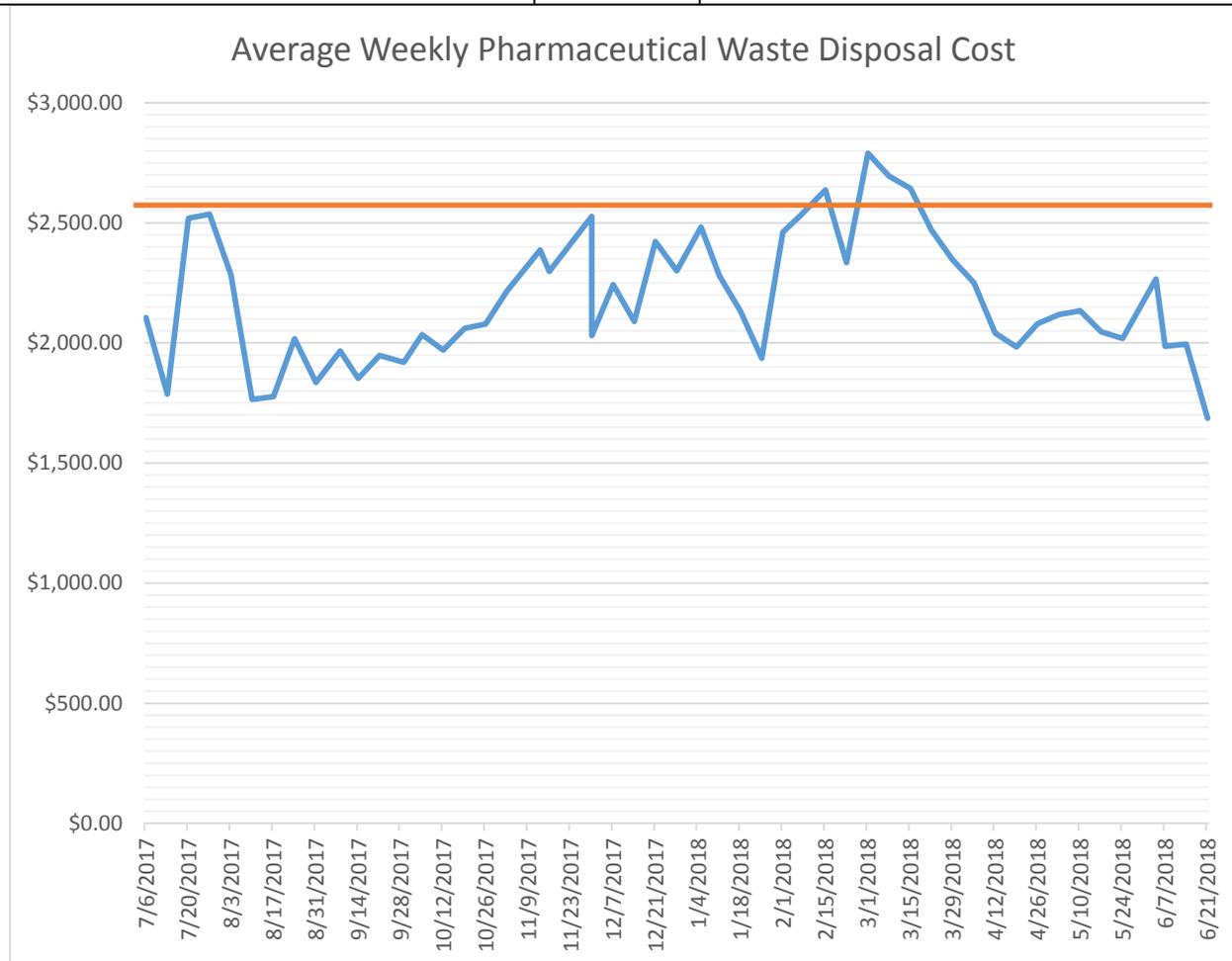
## PROGRAM OBJECTIVES FOR 2017-2018

Objectives	Met / Not Met	Comments and Action Plans
Reduce costs for pharmaceutical waste disposal.	<b>Met</b>	Developed an A3 and worked with key stakeholders to achieve a reduction in the cost of pharmaceutical waste disposal.
Enhance hazardous materials spill response procedures.	<b>Met</b>	<ul style="list-style-type: none"> <li>• Trained staff on the proper use of chemo/hazardous drug spill kits.</li> <li>• Developed mini spill kits for use in all medication rooms.</li> <li>• Worked with DPH Emergency Response Team to identify ways to utilize their existing spill cleanup contracts.</li> </ul>
Reduce and/or eliminate exposure to a hazardous material on campus.	<b>Met</b>	Worked with DPW to identify less hazardous epoxy flooring products for use on planned renovation projects.

## PERFORMANCE METRICS

The following metrics provide the Environment of Care Committee with information needed to evaluate performance of the Hazardous Materials and Waste Management Program activities and to identify further opportunities for improvement:

Target	Met / Not Met	Comments and Action Plans
Keep average cost per pharmaceutical waste pickup below \$2565.	<b>Met</b>	Utilizing the A3 process, we were able to achieve an average cost weekly cost of \$2174, a 20% reduction from FY16-17.



The Environment of Care Committee has evaluated the objectives and determined that objectives have been met. The Program continues to direct hazardous materials and waste management in a positive proactive manner.

## EFFECTIVENESS

Effectiveness is based on how well the scope fits current organizational needs and the degree to which current performance metrics result meet stated performance goals. The Environment of Care Committee has evaluated the Hazardous Materials and Waste Management Program and considers it to be effective.

## GOALS AND OPPORTUNITIES FOR IMPROVEMENT IN 2018-2019

- **Reduce costs for pharmaceutical waste disposal.** Though there was an overall reduction in costs compared to FY16-17, there are still areas that need improvement. During 2018-2019, EH&S will look for ways to further lower costs.
- **Conduct a study of eyewash water quality.** The Joint Commission routinely questions the efficacy of monthly flushing of eyewashes. Surveyors contend that flushing should be done more frequently to flush out possible contaminants. Currently, we follow Cal/OSHA regulations which require monthly flushing. EH&S will conduct testing on a set of representative eyewashes in different buildings on campus to determine whether or not the 30 day test interval is indeed effective in keeping eyewashes free of contaminants.
- **Reduce and/or eliminate exposure to a hazardous material on campus.** The most effective ways to minimize exposure to a chemical are to limit/eliminate the chemical's use or to implement engineering controls. In 2018-2019 EH&S will seek to reduce employee exposures to a hazardous materials using these control methods.

The proposed performance metrics for these goals will include:

Hazardous Materials & Waste Management Proposed Performance Metrics for 2018-2019	Target
<b>AIM:</b> Reduce costs for pharmaceutical waste disposal	<ul style="list-style-type: none"> <li>• Keep average cost per pickup &lt;\$2065 (5% reduction from 2017-2018)</li> </ul>
<b>AIM:</b> Conduct study of eyewash water quality to determine efficacy of monthly flushing.	<ul style="list-style-type: none"> <li>• Work with facilities to conduct testing of a representative group of eyewashes.</li> </ul>
<b>AIM:</b> Reduce and/or eliminate exposure to a hazardous material on campus.	<ul style="list-style-type: none"> <li>• Eliminate a hazardous substance currently used at ZSFG or reduce exposure to a substance through the implementation of engineering controls.</li> </ul>

# MEDICAL EQUIPMENT MANAGEMENT

The Medical Equipment Management Program is intended to promote the safe and effective use of medical equipment in support of patient care. The program is designed to minimize risk associated with the use of medical devices through the careful selection, acquisition and maintenance of all medical equipment used for patient care.

## SCOPE

The Medical Equipment Management Program applies to all medical devices and related services provided on the ZSFG campus. Services are available on-site Monday through Friday, 0700 – 1730, excluding holidays. A Biomed technician is on-call for emergency work orders after hours to provide 24 – hours support for the medical center.

## ACCOMPLISHMENTS

**Program highlights for FY17-18 include:**

- **Activities:**
  - Standardization of our database to follow ECRI Universal Medical Device Nomenclature System (UMDNS) for 11,000 pieces of medical equipment.
  - Implementation of standardized preventive maintenance procedures from ECRI for 53 device types.
  - We started testing the use of tablets to document the work performed by the Biomed technicians.
  - Medical device cyber security assessment performed on the medical devices in our inventory. We updated 1,200 medical device records with their relevant IT information.
- **Developing People:**
  - Verathon model 9400 bladder scanner training for 8 Biomedical Technicians.
  - Baxter Sigma infusion pump training for 2 Biomedical Technicians.
  - Philips MX Series physiological monitor training for 2 Biomedical Technicians.
  - Philips MX telemetry system training for 2 Biomedical Technicians.
  - Zoll R-series defibrillator technical training for 8 Biomedical Technicians.
- **Safety:**
  - Medtronic 980 ventilators on going issues with screen freeze, SST errors and background fault messages. 980 ventilator use has been discontinued. There's been no patient harm.
  - Philips physiological monitors leads off report. Philips upgraded the firmware of all our physiological monitors to remediate the problem. They also advised us to use a cleaning product on their list of approved products. Cleaning/disinfectant

wipe being used had the same chemical components and concentrations as products on the list, but the specific product used at ZSFG was not included on the list. The clinical staff is conducting a trial in ICU using a product not normally used at ZSFG, but is on the manufacturer's list.

- o Smith Medical rapid infuser H-1200, staff reported that the devices slowdown the infusion after a few minutes of use. Smith Medical reported that the problem is related to the changes the company made to the design of the chamber. We are working with the manufacturer, Medsun and the ECRI institute. The devices are not in use at the moment.

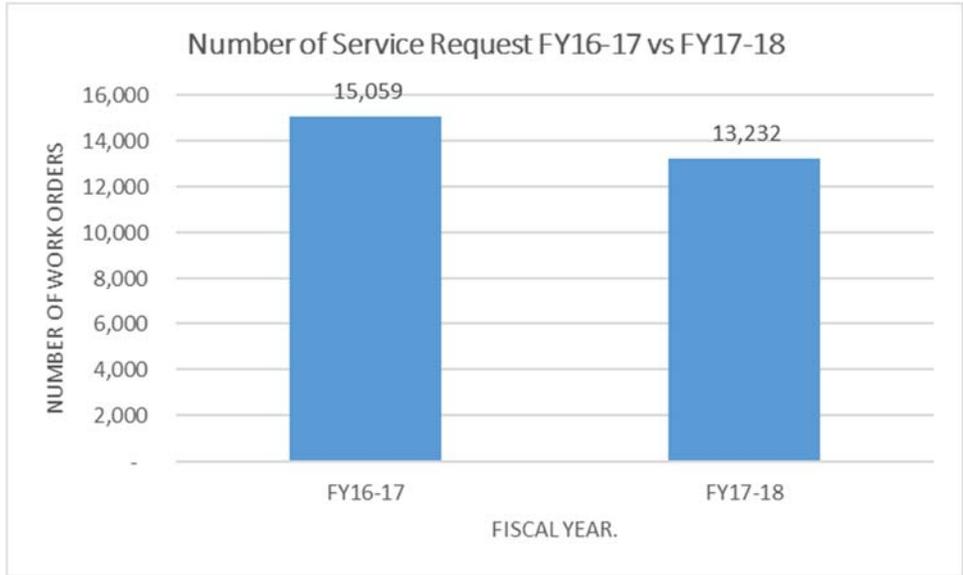
## PROGRAM OBJECTIVES

Objectives	Met/ Not Met	Comments and Action Plan
<p><b>Perform incoming inspection on all new medical devices received at Zuckerberg San Francisco General within 5 days.</b></p>	<b>Met</b>	<p>All new medical devices were received and inspected for proper operation prior to patient use. The Biomedical department inventoried 512 devices during FY17-18. 35% of those devices came to the OR and the new urgent care center. We retired 466 devices during FY17-18. Most the devices retired belong to OR and CPD.</p>
<p><b>All medical equipment in the Biomed Department database are managed and accounted for during FY17-18. Preventative Maintenance (PM) completed within 30 days of creation:</b></p> <p><b>Target – life support preventive maintenance goal is to manage 100%.</b></p> <p><b>Target – non-life support preventive maintenance goal is to manage &gt;= 95%.</b></p> <p><b>Target - % of device not located during PM threshold =&lt; 5%.</b></p>	<b>Met</b>	<p>The Biomed department has currently 11,112 active devices in our database. We generated 8,312 PM work orders during FY17-18.</p> <p>Biomed managed 100% of all the PMs for Life support equipment during FY17-18.</p> <p>Biomed managed 100% of all the PMs for Non-life support equipment during FY17-18 was 100%.</p> <p>% of CNL devices for FY17-18 was 1.9% (161 devices not located).</p>
<p><b>Provide cost- effective service and contract management.</b></p>	<b>Met</b>	<p>During FY17-18 the Biomed department partnered with Altar to reduce the cost of ultrasound probe repairs.</p>

<p><b>Maintain an accurate inventory of all medical equipment.</b></p>	<p><b>Met</b></p>	<p>The Biomed department worked with ECRI to standardize our data to match the universal medical device nomenclature system (UMDNS). The changes were made in our production environment in FY17-18. We work every quarter with ECRI in the standardization of new inventoried equipment.</p>
<p><b>Provide service resulting in a high level of customer satisfaction.</b></p>	<p><b>Met</b></p>	<p>The Biomed department has standing meetings with most clinical areas. We meet regularly every month.</p>

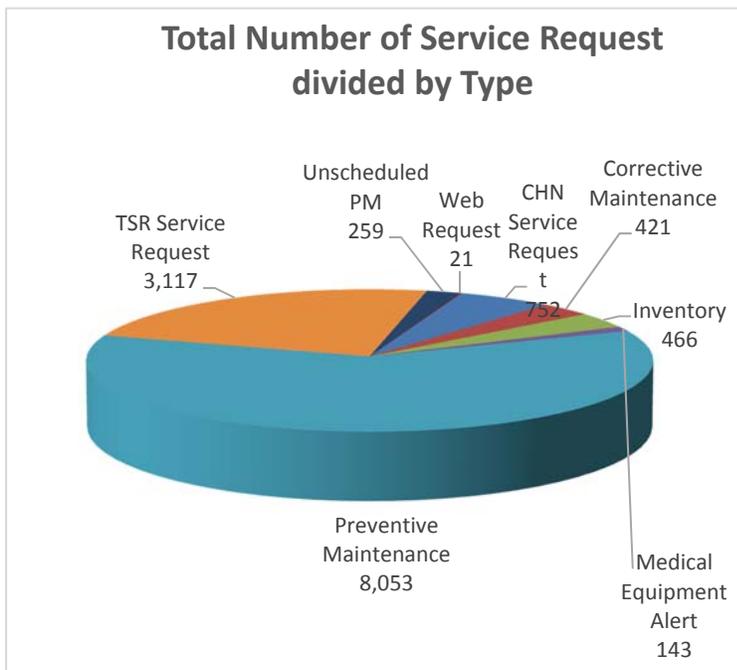
## PERFORMANCE METRICS

Service Request Classification	1st QTR	2nd QTR	3rd QTR	4th QTR	Annual Total Number of Service Request
Service Request(repairs, recalls, EOC work orders)	1,070	1,194	1,281	1,375	4,920
Scheduled Maintenance	1,555	1,748	2,912	2,097	8,312
Total Number of Work Orders	2,625	2,942	4,193	3,472	<u>13,232</u>

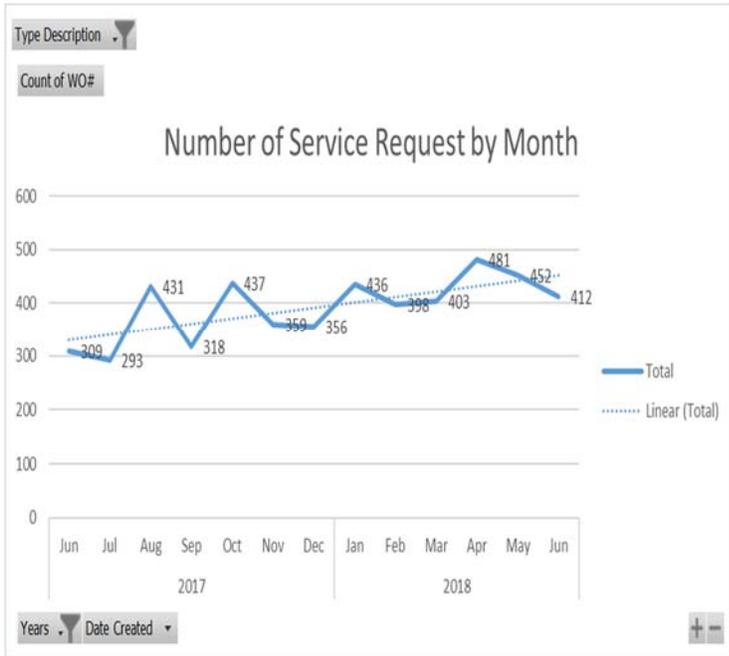


The total amount of work orders for FY17-18 has decreased 13% compared to FY16-17. The reduction is attributed to activities related to the move to the new building 25 and decommission of building 5. During the second half of 2016 there was a big effort to decommission building 5. However, the total number of service request has gone up 25% for FY17-18 compared to FY16-17.

**WORK ORDER DATA**



This chart shows the different types of work order that the Biomedical Engineering Department spends their time working on. More than 61% of our time is dedicated to perform or manage the preventive maintenance of the 11,112 medical devices in the medical center.

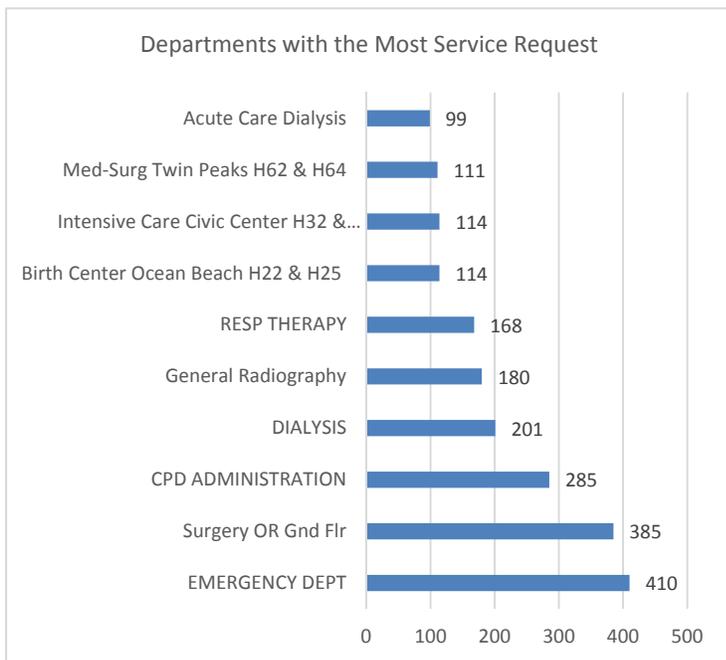


*This graph shows the number of monthly service request we received during FY17-18. This graph doesn't include PM activities. We expect for the amount of work orders to increase at least by 15% in the upcoming years*

## WORK ORDER DATA

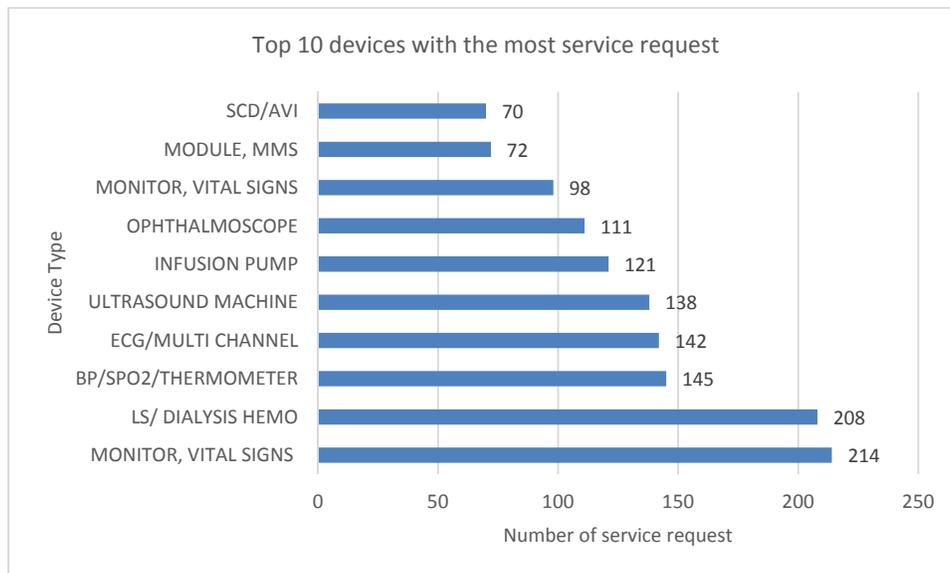


*Repair turnaround time is within expectations. We have made changes in the way work orders are assigned in order to balance the workload and reduce the turnaround time. Also, we made changes to the process for ordering parts.*



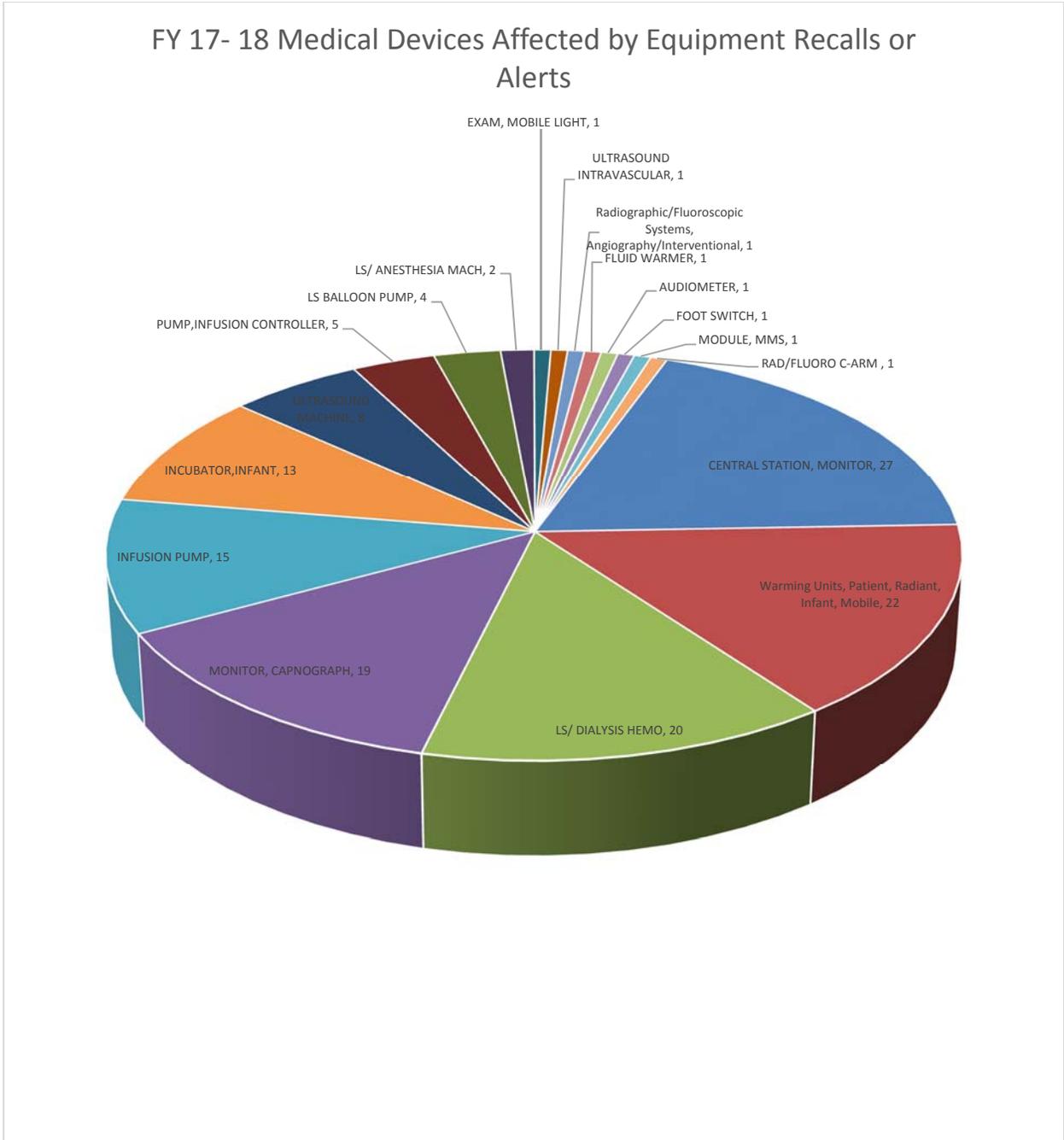
*The Emergency Department was the department with the most service requests during FY17-18. Most of the repairs were related to misuse.*

## WORK ORDER DATA



*The chart above shows the devices with the most service request during FY17-18. The second highest number of repairs is for hemodialysis machines. The age and the amount of hours of the equipment are contributing factors for having this many work orders. We are currently working on replacing the 3 oldest machines. Also, we have two Biomed technicians assigned to work on Dialysis machines.*

**MEDICAL DEVICES RECALL**



*During FY 17-18 we had 143 devices affected by medical equipment recalls or alerts. The Biomedical Engineering Department worked with the equipment manufacturer to ensure that the equipment was remediated.*

Proposed Performance Improvement FY17-18	Met / Not Met	Results
<p><b>Medical devices cybersecurity. Perform an assessment for all medical equipment connected to the ZSFG network. Identify devices on the network handling ePHI in the Biomed CMMS. Develop and initiate measures to address cybersecurity risks discovered in the assessment.</b></p> <ol style="list-style-type: none"> <li>1. Record MAC address,</li> <li>2. Software version.</li> <li>3. Identify if it stores ePHI.</li> <li>4. Recommend measures for securing “high risk” devices.</li> </ol>	<b>Met</b>	<p><b>We identified over 1000 pieces of medical equipment connected to the hospital’s network. We documented their MAC addresses and software version in TMS.</b></p> <p><b>Starting in February 2018 the Biomedical Department has been working with IT and Philips to apply security patches to all the Philips central stations and server.</b></p>
<p><b>Capture the Cost of service Ratio (COSR) for our medical equipment program.</b></p>	<b>Partially Met</b>	<p><b>We are capturing all the medical equipment expense related to maintenance. However, we haven’t implemented a sustainable process to produce the COSR on a monthly bases. This is one of the items that we are going to be working on with TMS during FY18-19.</b></p>

## **EFFECTIVENESS**

The Medical Equipment Management Program has been evaluated by the multi-disciplinary Environment of Care Committee and is considered to be effective.

## GOALS AND OPPORTUNITIES FOR IMPROVEMENT FOR FY18-19

- **Education:** Make training a key part of the acquisition for new equipment and an ongoing consideration for existing medical devices.
  - 1) Form a collaboration group with the nursing department to look at training needs based on reported issues to Biomed:
    - a) Assess training and credentialing requirements for new and existing medical equipment.
    - b) Monitor the effectiveness of training by tracking the number of issues reported by areas before and after training.
    - c) Create a scorecard by departments.
  - 2) Familiarize the staff with available training programs and tools for medical equipment that they are expected to use:
    - a) Training provided by the manufacturer.
    - b) Guidelines provided by other organization.
  - 3) Identify and implement a training program that includes different learning styles.
    - a) Hands-on (face – to – face), visual, differentiated by role and clinical relevant (scenarios and simulation).
    - b) Training conducted during dedicated time.
- **Education - Zoll defibrillators best practices:** Due to the frequent reports we receive from the Zoll dashboard we will work with the manufacturer and the nursing education team to reinforce training for the staff using the Zoll defibrillator
  - 1) Provide in-service for the nursing departments in the inpatient and outpatient area.
  - 2) Create a scorecard with the number of reports received monthly.

*This Page Intentionally Left Blank*

# SAFETY MANAGEMENT

## SCOPE

Safety Management is designed to identify and address potential safety risks in the ZSFG environment. At ZSFG, Safety Management is shared by two complementary programs, Patient Safety and Environmental Health and Safety:

- Patient Safety is a function of Quality Management and oversees the organization's patient safety plan and national patient safety goals. Patient Safety reports via Process Improvement and Patient Safety Committee (PIPS).
- Environmental Health & Safety (EH&S) focuses on staff health, safety, and well-being. The Environmental Health and Safety Department provides consultation, resources and training to create, maintain and improve the hospital's working environment. The goals of EH&S are to reduce or eliminate staff injuries and illnesses, and create a safe environment for all persons including staff, patients, clients, and visitors at the ZSFG site. EH&S reports their activities through the Environment of Care Committee in both this chapter and the Hazardous Materials and Hazardous Waste Chapter.

The Safety Management Program's scope encompasses all departments and areas of the ZSFG campus, except for UCSF research activities, which fall under UCSF management. To provide a complete picture of Safety Management at ZSFG, a summary of Patient Safety activities is included as an attachment to this Section of the Environment of Care Committee's Annual Report. The full report is available in the PIPS meeting minutes. Also attached is a Failure Modes and Effects Analysis (FMEA) conducted by Patient Safety and Risk Management on ligature risk in inpatient psychiatric units. Based on this analysis extensive upgrades were made to the psychiatric units to meet ligature risk guidelines.

The balance of this report focuses on EH&S activities.

## ACCOMPLISHMENTS

- Expanded use of injury data to identify and focus on activities and factors which result in employee injuries.
  - Use of bloodborne pathogen exposure and sharps injury data has both revitalized the SF DPH Bloodborne Pathogen/Safe Device Committee and has led to UCSF focusing on resident sharp injury reduction as a Performance Improvement goal.
  - Patient care staff musculoskeletal injury data is being used as the "real world" basis for Safe Patient Handling Committee activities including equipment training and the pursuit and selection of replacement patient lifting slings.
  - Support staff musculoskeletal injury data has been used as the basis for safe cart handling training (see attached Cart Safety Bulletin).
  - Concerned about musculoskeletal injuries from lifting soiled linen bags,

Laundry and Linen Service located and oversaw the roll-out of a bag which reduced the weight of filled linen bags by approximately 10 pounds, while greatly increased user satisfaction (previous oversized bags fell out of their hampers), and had a lower per-bag costs. Planned follow-on actions with Environmental Services and Infection Control are to try to reduce the amount of manual soiled linen bag transport, with the goals of reducing the risk of spread of contaminants and lowering the risk of musculoskeletal injuries for EVS staff.

- Continued to partner with ZSFG Infection Prevention & Control on developing “win-win” solutions which protect and improve the safety of both patients and staff. Using construction techniques developed to contain and control asbestos and lead for infection control purposes has allowed construction to occur in close proximity to patients, staff, and visitors without putting them at undue risk of injuries or exposures. Continued to work with ZSFG Capital Projects on both the up-front planning for and execution of construction work in close proximity to patients, staff, and visitors, including the implementation of lead, asbestos, and infection control measures.
- Completed a total of 102 individual computer workstation evaluations as well as 8 group or work area evaluations where ergonomic retrofit funding was used. Provided input on changes, upgrades, or redesigns on 12 other areas where retrofit funding was not involved. Started working on workstation design for EMR-associated workstations and area retrofits. Continued to work standardizing ergonomic equipment catalog and negotiated pricing and improved delivery models for replacement chairs. Continued to issue “Ergonomics Tips” to maintain staff awareness of best practices for workstation ergonomics.

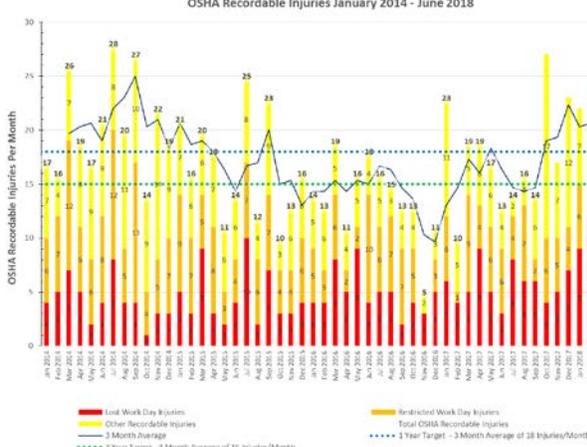
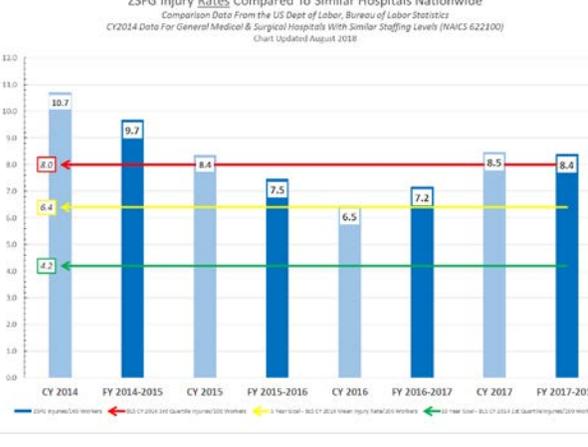
## PROGRAM OBJECTIVES FOR FY 2017-2018

Objectives	Met / Not Met	Comments and Action Plans
<b>Safety:</b> Continue efforts to reduce the numbers of staff injuries.	<b>Met</b>	Significant momentum gained on joint SF DPH/UCSF efforts to reduce sharps injuries and blood and body fluid exposures. Support of Safe Patient Handling Committee activities with regards to replenishing supplies of patient handling sling expected to result in reductions in patient handling musculoskeletal injuries. <i>Objective to be continued forward to FY2018-2019.</i>

<p><b>Safety:</b> Continue to identify and develop countermeasures for activities and areas where significant numbers of staff injuries occur.</p>	<p><b>Met</b></p>	<p>To counter sharps injuries and blood and body fluid exposures (1) UCSF selected resident needlestick / exposure prevention as a Performance Improvement Project, and (2) DPH Bloodborne Pathogen / Safe Device Committee started more closely evaluating exposure data. To counter patient-handling associated musculoskeletal injuries increased support given to Safe Patient Handling Committee. <i>Objective to be continued forward to FY2018-2019.</i></p>
<p>Safety: Systematically assess workflows and processes in Building 25, and update training, reference materials, and monitoring tools to match workflows and processes.</p>	<p><b>Not Met</b></p>	<p>Dramatically increased support requirements for construction activities on site lead to shift in focus to improving processes and planning for construction work with emphasis on controlling patient, staff, and visitor risks from construction activities.</p>
<p>Safety: Work with Nursing leadership and the Department of Education and Training to PDSA methods for training managers and supervisors in the basics of injury (incident) investigations.</p>	<p><b>Not Met</b></p>	<p>Conflicting priorities both within EH&amp;S (construction support in particular) as well as other training priorities for hospital delayed planned development and testing. <i>Objective continued forward to FY2018-2019.</i></p>
<p>Financial Stewardship: Develop “sustainable” model for ergonomic equipment funding.</p>	<p><b>Met</b></p>	<p>Equipment lifecycle based budgeting tool distributed to units as part of FY2018-2019 budget development process.</p>
<p>Developing People: Provide coaching and resources to allow Ergonomics Program Coordinator to take the lead on and successfully develop a sustainable model for ergonomic equipment funding. Transition Radiation Safety Officer Role to Senior Industrial Hygienist and involve Senior IH in safety activities to expand experience base.</p>	<p><b>Partially Met</b></p>	<p>Ergonomics Program Coordinator developed a tactical A3 on Developing Sustainable Ergonomics Program funding and took the lead on presenting the Ergonomics Budgeting Tool at Budget Workshops. Senior Industrial Hygienist oriented on radiation dosimetry and other components of Radiation Safety Program but transition delayed because of other demands placed on Senior Industrial Hygienist.</p>
<p>An annual evaluation of the scope, objectives, key performance indicators, and the effectiveness of the Safety Management plan and programs is conducted.</p>	<p><b>Met</b></p>	<p>Completed via this document.</p>

## PERFORMANCE METRICS

The following metrics provide the Environment of Care Committee with information needed to evaluate performance of the Safety Management Program activities and to identify further opportunities for improvement:

Objectives & Performance Indicators	Results
<p><b>AIM:</b> Show continued progress in reducing staff injuries and injury rates, measured by no increase in Recordable Injury Counts or Injury Rates from FY2016-2017.</p> 	<p><b>Not Met:</b> Although the three month average of injuries closed the Fiscal Year at 17, injury counts increased from the previous fiscal year, as did the standardized injury rate (“Incidence Rate”).</p> 
<p><b>AIM:</b> Initiate no less than two initiatives specifically targeted at reducing staff injuries.</p>	<p><b>Met:</b> Previously described efforts towards sharps injuries / blood and body fluid exposures prevention and patient handling musculoskeletal injury prevention are noteworthy initiatives in that they involved supporting other groups at ZSFG leading the efforts.</p>
<p><b>AIM:</b> Working with ZSFG Finance and Administration, engage in PDSA to develop a “sustainable” financial model for funding office ergonomics equipment.</p>	<p><b>Met:</b> Lead by Ergonomics Program Coordinator, PDSA cycle completed.</p>
<p><b>AIM:</b> Working with Nursing leadership, engage in PDSA to develop injury/incident investigation training for unit managers.</p>	<p><b>Not Met:</b> Conflicting priorities did not permit training to be developed and tested.</p>

## EFFECTIVENESS

Effectiveness is based on how well the goals are met and how well the scope of the performance metrics fit current organizational needs. Recognizing the significant challenge of reducing staff injuries and the limited resources available, the Environment of Care Committee has reviewed the Safety Management Program and found it to be effective, but needs improvement based on the objectives and performance metrics indicated in the Plan.

## GOALS AND OPPORTUNITIES FOR IMPROVEMENT IN 2018-2019:

- Safety: Continue efforts to reduce the number of staff injuries. See Proposed Performance Metrics for 2018-2019 for additional details.
- Safety: Continue to identify and develop countermeasures for activities and areas where significant numbers of staff injuries occur.
- Safety: Working with the ZSFG Capital Projects, Facilities, and Infection Control, develop methods to more effectively review and control hazards posed by construction activities performed in close proximity to patients, staff, and visitors.
- Safety: *(Carry forward from previous fiscal year)* Work with Nursing leadership and the Department of Education and Training to PDSA methods for training managers and supervisors the basics of injury (incident investigation).
- Developing People: Working with Human Resources and Hospital Leadership, develop plan for both stabilizing the Ergonomics Program and expanding staffing for Environmental Health & Safety.

The proposed performance metrics for these goals are:

Safety Management Proposed Performance Metrics for 2018-2019	Target	Comments & Action Plan
<b>AIM:</b> Show continued progress in reducing staff injuries and injury rates.	<b>Reduce Recordable Injury Counts and Injury Rates to FY2016-2017 or less.</b>	Goals and Targets from Reducing Staff Injury Strategic A3 include: <ul style="list-style-type: none"> <li>• The reduction in recordable injuries to 15/month in by June 2019.</li> <li>• Bringing injury (incidence) rates towards the US Dept of Labor, Bureau of Labor Statistics 2014 mean for similar hospitals in 5 years.</li> </ul>
<b>AIM:</b> Develop no less than two new initiatives specifically targeted at reducing staff injuries.	<b>&gt;Two Initiatives</b>	Focus on high injury rate activities and workgroups.
<b>AIM:</b> Working with Nursing leadership, engage in PDSA to develop injury/incident investigation training for unit managers.	<b>PDSA Cycle Completed</b>	Focus on completion of existing Supervisor's Incident Investigation Report with

		sufficient information for managers to implement injury countermeasures.
<b>AIM:</b> Working with Hospital Leadership and Human Resources develop and start to implement plan for long-term stabilization of Ergonomics Program and expanding staffing for Environmental Health & Safety.	<b>Develop and Start Implementation of Plan</b>	PDSA cycle completed. Permanent hiring desirable but not anticipated for FY2018-2019.

Zuckerberg San Francisco General Hospital and Trauma Center  
 Patient Safety Plan Review  
 Hospital Acquired Infections (HAI), Hospital Acquired Conditions (HAC), National Patient Safety Goals (NPSG), and Patient Safety Programs  
 March, 2018 - PIPS

Initiative	Aim/Goal	Action	Results
<b>Hospital Acquired Infection (HAI) - Driver Metrics</b>			
Catheter Related Urinary Tract Infections (CAUTI) <b>NPSG 07.06.01</b>	Goal: 25% reduction 16-17 Baseline: 2.3/Month FY 17-18 Target: 1.8/Month FY 17-18: 1.4/Month 38.2% Reduction	<b>Accomplishments:</b> -Achieved a 38.2% reduction in CAUTI as of January 2018. -During CAUTI rounds, nursing staff are well versed on the indications and all catheters in place meet appropriate indications. <b>Challenges:</b> -Every service would like a specific indication list <b>Current Improvement Efforts:</b> -MICU daily assessment and documentation of the indication of the catheter to be spread to trauma. -Continue CAUTI rounds in ICU, and starting them in Med/Surg. - External female catheters now in use, completed test of a male alternate catheter in the ICU, to spread to Med/Surg.	<p><b>Historical Data</b></p> <p>FY16-17 Scorecard: True North: Safety, Quality; Measure Of: Number of CAUTI; Owner: Jignasa, Afly</p> <p>Hospital Wide: Safety, Quality; Measure Of: Number of CAUTI; Owner: Jignasa, Afly</p> <p>Goal Statement: Reduce Number of CAUTI to less than 21</p> <p>FY17-18 Target: 1.8                      Yr End % Improvement: 21.7%                      FY16-17 Baseline: 2.3                      FY 16-17/FY 17-18 YTD: 1.4                      YTD % Improvement: 38.2%</p>
Hospital Acquired Pressure Injuries (HAPI) <b>NPSG 14.01.01</b>	Goal: 25% reduction 16-17 Baseline: 2/Month FY 17-18 Target: 1.5/Month FY 17-18: 1.9/Month - (5) Reduction -Started at (23.8)	<b>Accomplishments:</b> -Braden scale has been broken down into separate sub-categories, each category is documented in a new section in LCR that was developed by Ossie Gabriel. -PDSA on H54/56 and has spread to all Med/Surg units. - Reduced reportable HAPI from 30 cases in 16-17 to 6 in 17-18. <b>Challenges:</b> -Vizient awarded 5 WCI trainings for bedside RN's <b>Current Improvement Efforts:</b> -Continue handoff process for reporting on skin using the Braden scale to describe the skin condition in more detail. - Multidisciplinary team continues to meet quarterly.	<p><b>FY 17-18 Scorecard:</b> Focus Area: Safety; Measure Of: Hospital Acquired Pressure Injuries; Owner: Tom/Ossie/Kiana</p> <p>Goal Statement: Limit Reportable HAPI's to 1.5 per month.</p> <p>FY 17-18 Target: 1.5                      Yr End % Improvement: 25%                      Baseline: 2.0                      FY 16-17/17-18 avg: 1.8                      YTD % Improvement: -5%</p>

1

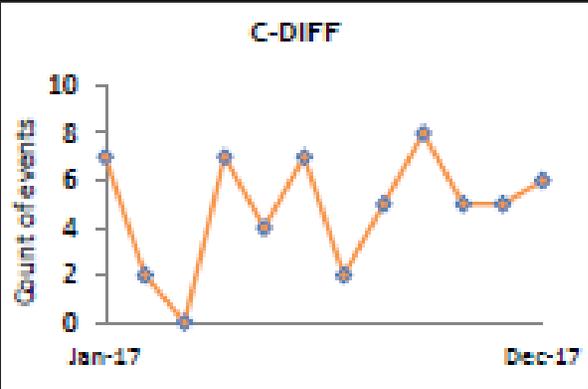
**Zuckerberg San Francisco General  
Hospital and Trauma Center  
Patient Safety Plan Review  
Hospital Acquired Infections (HAI), Hospital Acquired Conditions (HAC), National Patient Safety Goals (NPSG), and Patient Safety Programs  
March, 2018 - PIPS**

<p>Surgical Site Infection (SSI) <b>NPSG 07.05.01</b></p>	<p>Goal: 25% reduction 15/16 Baseline: 1.0/Month FY 16/17 Target: 0.8/Month CY 2017: 1.3/Month (25)%</p>	<p><b>Accomplishments:</b> -Implemented CHG wipes in the pre-op clinic. -Infection control will be writing a protocol for skin treatments, to include pre-op bathing.</p> <p><b>Challenges:</b> With rates being so low, it is a challenge to reduce them below single digits.</p> <p><b>Current Improvement Efforts:</b> -CHG wipes are being provided to patients with scheduled surgical procedures in order to facilitate patient bathing prior to surgical procedures. -CHG wipes are also being rolled out to the inpatient units to increase patient bathing the night before the surgical procedure.</p>	
<p><b>Initiative      Aim/Goal      Action      Results</b></p>			
<p><b>Hospital Acquired Conditions (HAC) – Driver Metric</b></p>			
<p>Falls with Injury <b>NPSG 09.02.01</b></p>	<p>Goal: 25% reduction 16-17 Baseline: 6.3/Month FY 16/18 Target: 4.7/Month FY 16/18: 4.5/Month 28.2% Reduction</p>	<p><b>Accomplishments:</b> -Implementing <b>No Pass Zone</b>, all team members that are walking through patient care areas will participate and respond to bed or chair exit alarms. -Falls with injury rates sustained below target for more than a year. -ED shower installed non-slip surface to test grit and effectiveness. Decided grit and color.</p> <p><b>Challenges:</b> -Fall rates continue despite our reduction in falls with injury. -Purposeful rounding on H76/78 has been difficult to sustain.</p> <p><b>Current Improvement Efforts:</b> -Continue to spread education on <b>No Pass Zone</b> - Continue to work with facilities to install non-slip coating to all showers.</p>	

2

Zuckerberg San Francisco General  
Hospital and Trauma Center  
Patient Safety Plan Review

Hospital Acquired Infections (HAI), Hospital Acquired Conditions (HAC), National Patient Safety Goals (NPSG), and Patient Safety Programs  
March, 2018 - PIPS

Initiative	Aim/Goal	Action	Results																										
<b>National Patient Safety Goals – Driver Metric</b>																													
Patient Identification <b>NPSG 01.01.01</b> Clinical Alarms <b>NPSG 06.01.01</b> High Risk Meds <b>NPSG 01.03.01</b>	Staff can speak to the policy on specified unit 90% of the time.	<b>Accomplishments:</b> -Participated in Med/Surg update where we educated the nursing staff on patient identification, clinical alarms and independent double check with high risk medications.  <b>Challenges:</b> <b>Current Improvement Efforts:</b> -Will measure effectiveness of education by developing a tracer to include patient identification, clinical alarms and high risk medications.	TBD																										
Initiative	Aim/Goal	Action	Results																										
<b>Hospital Acquired Infection (HAI) Watch Metrics</b>																													
Clostridium Difficile (CDI) <b>NPSG 07.03.01</b>	Reduce FY 2015 rate for HO-CDI illness: 1 Year = 25% (.51 cases per 1000 pd's) 3 Year = 50% (.34 cases per 1000 pd's)	<b>Accomplishments:</b> -Patients with a history of CDI who are at risk for recurrence are being treated with oral Vancomycin prophylaxis in order to prevent CDI recurrence.  <b>Challenges:</b> -It is difficult to regularly assess equipment and room cleaning.  <b>Current Improvement Efforts:</b> - Daily check of the list of newly admitted patients to look for patients with a history of previous CDI. -Development of standard work for isolation supply cart turnover. -Developing a hand hygiene A3.	 <table border="1"> <caption>C-DIFF</caption> <thead> <tr> <th>Month</th> <th>Count of events</th> </tr> </thead> <tbody> <tr><td>Jan-17</td><td>7</td></tr> <tr><td>Feb-17</td><td>2</td></tr> <tr><td>Mar-17</td><td>0</td></tr> <tr><td>Apr-17</td><td>7</td></tr> <tr><td>May-17</td><td>4</td></tr> <tr><td>Jun-17</td><td>7</td></tr> <tr><td>Jul-17</td><td>2</td></tr> <tr><td>Aug-17</td><td>5</td></tr> <tr><td>Sep-17</td><td>8</td></tr> <tr><td>Oct-17</td><td>5</td></tr> <tr><td>Nov-17</td><td>5</td></tr> <tr><td>Dec-17</td><td>6</td></tr> </tbody> </table>	Month	Count of events	Jan-17	7	Feb-17	2	Mar-17	0	Apr-17	7	May-17	4	Jun-17	7	Jul-17	2	Aug-17	5	Sep-17	8	Oct-17	5	Nov-17	5	Dec-17	6
Month	Count of events																												
Jan-17	7																												
Feb-17	2																												
Mar-17	0																												
Apr-17	7																												
May-17	4																												
Jun-17	7																												
Jul-17	2																												
Aug-17	5																												
Sep-17	8																												
Oct-17	5																												
Nov-17	5																												
Dec-17	6																												

3

**Zuckerberg San Francisco General  
Hospital and Trauma Center  
Patient Safety Plan Review**

**Hospital Acquired Infections (HAI), Hospital Acquired Conditions (HAC), National Patient Safety Goals (NPSG), and Patient Safety Programs  
March, 2018 - PIPS**

<p>Venous Thromboembolism Prevention (VTE)  <b>NPSG 03.05.01</b></p>	<p>-VTE-1 Increase compliance of SCD to 96% in Med-Surg -VTE-2 Increase compliance of SCD to 100% in ICU -Reduce PSI-12 to match best decile O/E(AHRQ) 1 – year = 6 3 – Year = 4</p>	<p><b>Accomplishments</b> -Successfully implemented New SCD machines to be available in every room in ICU and Med-Surg units. - SCD compliance rate is nearly 100% in ICU since Feb 2017 <b>Challenges:</b> -SCD machines are not kept in the patient room- when transferring pt. to another unit or when not in use, they are placed in the closet or taken to the dirty utility room. <b>Current Improvement Efforts:</b> -Real time weekly audits/ education with staff on importance of VTE and SCD usage in med-surg. -MSN students assisting with audits.</p>	<p><b>VTE Prophylaxis - Surgical VTE</b></p> <table border="1"> <thead> <tr> <th>Month</th> <th>Surgical VTE</th> <th>Med-Surg SCD Adherence (VTE-1)</th> <th>ICU SCD Adherence (VTE-2)</th> </tr> </thead> <tbody> <tr><td>Jan-17</td><td>0</td><td>8</td><td>100%</td></tr> <tr><td>Feb-17</td><td>2</td><td>7</td><td>100%</td></tr> <tr><td>Mar-17</td><td>0</td><td>7</td><td>100%</td></tr> <tr><td>Apr-17</td><td>2</td><td>7</td><td>100%</td></tr> <tr><td>May-17</td><td>4</td><td>9</td><td>100%</td></tr> <tr><td>Jun-17</td><td>1</td><td>8</td><td>100%</td></tr> <tr><td>Jul-17</td><td>2</td><td>8</td><td>100%</td></tr> <tr><td>Aug-17</td><td>1</td><td>9</td><td>100%</td></tr> <tr><td>Sep-17</td><td>4</td><td>5</td><td>100%</td></tr> <tr><td>Oct-17</td><td>2</td><td>7</td><td>100%</td></tr> <tr><td>Nov-17</td><td>3</td><td>9</td><td>100%</td></tr> <tr><td>Dec-17</td><td>3</td><td>7</td><td>100%</td></tr> </tbody> </table>	Month	Surgical VTE	Med-Surg SCD Adherence (VTE-1)	ICU SCD Adherence (VTE-2)	Jan-17	0	8	100%	Feb-17	2	7	100%	Mar-17	0	7	100%	Apr-17	2	7	100%	May-17	4	9	100%	Jun-17	1	8	100%	Jul-17	2	8	100%	Aug-17	1	9	100%	Sep-17	4	5	100%	Oct-17	2	7	100%	Nov-17	3	9	100%	Dec-17	3	7	100%
Month	Surgical VTE	Med-Surg SCD Adherence (VTE-1)	ICU SCD Adherence (VTE-2)																																																				
Jan-17	0	8	100%																																																				
Feb-17	2	7	100%																																																				
Mar-17	0	7	100%																																																				
Apr-17	2	7	100%																																																				
May-17	4	9	100%																																																				
Jun-17	1	8	100%																																																				
Jul-17	2	8	100%																																																				
Aug-17	1	9	100%																																																				
Sep-17	4	5	100%																																																				
Oct-17	2	7	100%																																																				
Nov-17	3	9	100%																																																				
Dec-17	3	7	100%																																																				
<p>Possible Ventilator Associated Pneumonia (VAP)</p>	<p>Maintain Zero incidents of VAP for fiscal year 2016/2017</p>	<p><b>Accomplishments:</b> -Increased use of adaptive strategies such as targeted light sedation and early mobilization. <b>Challenges:</b>  <b>Current Improvement Efforts:</b> -Using more non-invasive ventilation and high-flow nasal cannulas as standard practice, reducing the use ventilators.</p>	<p><b>Possible Ventilator-Associated Pneumonias</b></p> <table border="1"> <thead> <tr> <th>Month</th> <th>Count of events</th> </tr> </thead> <tbody> <tr><td>Jan-17</td><td>0</td></tr> <tr><td>Feb-17</td><td>1</td></tr> <tr><td>Mar-17</td><td>0</td></tr> <tr><td>Apr-17</td><td>1</td></tr> <tr><td>May-17</td><td>0</td></tr> <tr><td>Jun-17</td><td>0</td></tr> <tr><td>Jul-17</td><td>0</td></tr> <tr><td>Aug-17</td><td>0</td></tr> <tr><td>Sep-17</td><td>1</td></tr> <tr><td>Oct-17</td><td>0</td></tr> <tr><td>Nov-17</td><td>1</td></tr> <tr><td>Dec-17</td><td>2</td></tr> </tbody> </table>	Month	Count of events	Jan-17	0	Feb-17	1	Mar-17	0	Apr-17	1	May-17	0	Jun-17	0	Jul-17	0	Aug-17	0	Sep-17	1	Oct-17	0	Nov-17	1	Dec-17	2																										
Month	Count of events																																																						
Jan-17	0																																																						
Feb-17	1																																																						
Mar-17	0																																																						
Apr-17	1																																																						
May-17	0																																																						
Jun-17	0																																																						
Jul-17	0																																																						
Aug-17	0																																																						
Sep-17	1																																																						
Oct-17	0																																																						
Nov-17	1																																																						
Dec-17	2																																																						

**Zuckerberg San Francisco General  
Hospital and Trauma Center  
Patient Safety Plan Review**

**Hospital Acquired Infections (HAI), Hospital Acquired Conditions (HAC), National Patient Safety Goals (NPSG), and Patient Safety Programs  
March, 2018 - PIPS**

<p>Central Line Associated Blood Stream Infections (CLABSI) <b>NPSG 07.04.01</b></p>	<p>While the ultimate goal is to have 0 CLABSI, specific goals were established by CMS. SFGH CY 2015 overall goal is to decrease 2016/17 rate of CLA-BSI by 25% at a minimum for each individual category – ICU and Non-ICU.</p>	<p><b>Accomplishments:</b> -Continue to have an active and engaged CLABSI team.</p> <p><b>- Challenges:</b> -ED should be placing them on patients who are boarding or being admitted.</p> <p><b>Current Improvement Efforts:</b> - Replaced Cuross caps with a new product that is now house wide.</p>	
<b>Initiative</b>	<b>Aim/Goal</b>	<b>Action</b>	<b>Results</b>
<b>Hospital Acquired Conditions (HAC) – Watch Metrics</b>			

5

<b>Initiative</b>	<b>Aim/Goal</b>	<b>Action</b>	<b>Results</b>
<b>Patient Safety Programs</b>			
<p>Culture of Safety Survey</p>	<p>Administer the Culture of Safety Survey every two years.</p>	<p><b>Accomplishments:</b> - AHRQ culture of safety survey ran from February 6th to March 13<sup>th</sup>, 2017. -Achieved a solid 30% response rate. -53 departments have submitted individual plans for improvement.</p> <p><b>Challenges:</b> -Participation of staff and providers has been a challenge.</p> <p><b>Current Improvement</b></p>	<p>Of the 53 department that completed an improvement plan 47% have reported out to the Workforce Care and Development Taskforce, 28% are due to report out on March 26, and the remaining 25% are due to report out on May 21, 2017.</p>

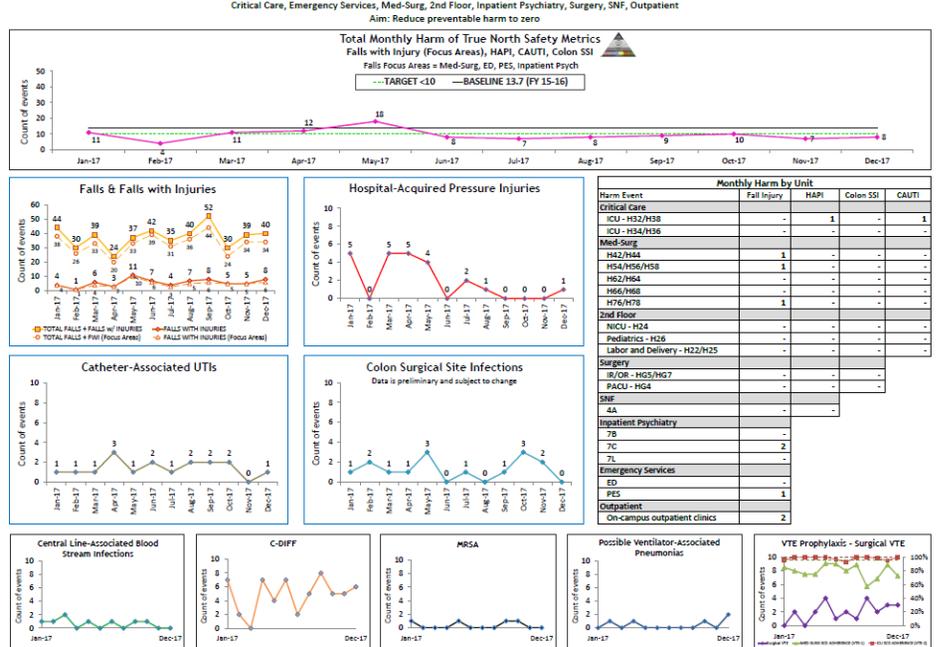
**Efforts:**  
-Scheduled report out to the Workforce Care and Development Taskforce.  
-Press-Ganey contract signed for a combined engagement/patient safety survey.

Patient Safety Harm Dashboard

Update Harm dashboard monthly and post on nursing units.

**Accomplishments:**  
-Developed a new format for the Harm Dashboard that highlights the 4 drivers.  
-Below target for 8 months of the year 2017.  
-32 Zero Hero Awards were presented at MF in 2017.  
**Challenges:**  
-Timely data collection  
**Current Improvement Efforts:**  
-Patient Safety team rounds on a regular basis to huddle with staff regarding the harm dashboard.

**ZSFG Hospital Wide Patient Safety Dashboard – Dec 2017**



**Zero Hero Awards**  
**Quarter 1, 2017**  
H32/38 Critical Care  
H34/36 Critical Care  
H42/44 Med/Surg  
H54/56/58 Med/Surg

Zuckerberg San Francisco General

Hospital and Trauma Center

Patient Safety Plan Review

Hospital Acquired Infections (HAI), Hospital Acquired Conditions (HAC), National Patient Safety Goals (NPSG), and Patient Safety Programs

March, 2018 - PIPS

			H62/64 Med/Surg H66/68 Med/Surg 7B, 7C, 7L, PES Psych(Quarterly) <b>Quarter 2, 2017</b> H54/56/58 H62/64 H66/68 H76/78 Maternal Child & Peds <b>Quarter 3, 2017</b> H76/78 H62/64 H54/56/58 H42/44 H32/38 H34/36 H66/68 Maternal Child & Peds <b>Quarter 4, 2017</b> H32/38 H34/36 H62/64 H66/68 H42/44 H54/56/58 H76/78 Maternal Child & Peds PACU/Pre-Op Operating Room 4A ED
--	--	--	---

*This Page Intentionally Left Blank*

# FAILURE MODES AND EFFECTS ANALYSIS

PREVENTING SUICIDE IN THE PSYCHIATRIC SETTINGS OF ZSFG (PART I)  
QUALITY MANAGEMENT

ZUCKERBERG SAN FRANCISCO GENERAL HOSPITAL  
**PROACTIVE RISK ASSESSMENT 2017**  
**Preventing Suicide in Psychiatric Emergency and Psychiatric Units 7B/C**

**BACKGROUND:**

The Joint Commission's Sentinel Event database has reports of 1,089 suicides occurring from 2010 to 2014 among patients receiving care, treatment, and services in a staffed, around-the clock care setting or within 72 hours of discharge, including from a hospital's emergency department. The most common root cause documented during this time period was shortcomings in assessment, most commonly psychiatric assessment.

Zuckerberg San Francisco General Hospital and Trauma Center currently provides Psychiatric Emergency Services (PES) on Floor 1 and inpatient Psychiatric services on floor 7 in the former acute care hospital, Building 5, built in 1972. Over the past four decades, there have been many changes to the psychiatric landscape in the country as well as the city and community served by ZSFG, including an increase in the psychiatric census. In 2017, there were 7578 admission to PES and 781 admissions to 7B. The space was designed and built long before the advancements of environmental designs specific to the psychiatric population.

The current hardware and fixtures in PES and the 7<sup>th</sup> floor psychiatric units (excluding 7L, forensic unit) were not designed as ligature resistant and these "anchor" points, can be used for suicide attempts, specifically hanging/strangulation, the most common cause of suicide attempts in the inpatient psychiatric setting.

Between June 2016- June 2017, ZSFG has had three separate suicide attempts within PES that included using fixtures/hardware for hanging/strangulation.

**PROACTIVE RISK ASSESSMENT SUMMARY**

**STEP 1: SELECT A PROCESS TO EVALUATE**

The process selected was the prevention of suicide specific to ligature risk prevention (environmental safety) in the PES and 7<sup>th</sup> floor psychiatric units of ZSFG.

**STEP 2: ASSEMBLE A TEAM**

A multidisciplinary team was established to assess the suicide/ligature risks as well as general environmental risk hazards in the PES and 7<sup>th</sup> floor psychiatric spaces.

**Team members:**

Andrea Chon, RN, PES Manager  
Kathy Ballou, RN, Nursing Director Psychiatric Services  
Mark Leary, MD, Deputy Chief of Acute and Emergency Psychiatric Services  
Anton Bland, MD, Medical Director of Psychiatric Emergency Services  
Karen Napitan, RN 7<sup>th</sup> Floor Manager  
Suzette DeJesus, Rn, 7<sup>th</sup> Floor Manager  
Susan Brajkovic, RN, Director Risk Management  
Chuck Lamb, RN, Risk Manager  
Michael Zane, RN, Risk Manager  
Jay Kloo, RN, Director Regulatory Affairs  
Tosan Boyo, Chief Operating Officer  
Greg Chase, Chief Facilities Engineer  
Tom Holton, RN, Patient Safety Officer  
San Francisco Sheriff's Department

**STEP 3: LIST STEPS IN THE RISK ASSESSMENT PROCESS**

Multiple steps were included in the evaluation of the risks assessment and are outlined as follows:

- Evaluation of UO reports for psych suicide attempts for PES and 7<sup>th</sup> floor.
- Review of National Patient Safety Goal 15.01.01 Element of Performance 1 – *Conduct a risk assessment that identifies specific patient characteristics and environmental features that may increase or decrease the risk for suicide.*
- Review of RCA, fishbone analysis from three separate suicide attempts.
- Observations of the PES/7<sup>th</sup> floor Environment
- Interview of PES/7<sup>th</sup> Floor staff
- Perform Environmental Risk Assessment using VA Mental Health Checklist tool specifically designed to evaluate spaces for psychiatric patient safety and identify potential hazards.

**STEP 4: IDENTIFY WEAKNESSES OR POTENTIAL FAILURES IN THE PES ENVIRONMENT**

Identified ligature risks/anchor points, specific for hardware/fixture items total 105 items; PES (22) and 7B (83). The following list identifies the type of hardware and quantity of each: Table I represents findings for PES and Table II represents findings for the 7B area.

**Table I: PES Ligature Risk Hardware (type and quantity)**

Door Closure	1
Fixed Door Pull	9
Toilet/Plumbing Gap	3
Door hinges	All
Patient room door hardware	7
Bathroom sink fixtures and electrical	6
Shower Control	1
Gap- Grab Bar	1
Hallway drinking fountain	1

**Table II: 7B Ligature Risk Hardware (type and quantity)**

Door Closure	1
Fixed Door Pull	9
Toilet/Plumbing Gap	10
Hallway sink	2
Door hinges	All
Patient room door hardware	11
2 sided door hardware	24
Single side door lever	2
Bathroom sink fixtures and electrical	22
Shower Control	1

**STEP 5: PRIORITIZE POTENTIAL FAILURES**

The team prioritized the potential failures using the FMEA process; specifically using a risk assessment matrix. The Risk Assessment Matrix is an expression of risk that combines the elements of hazard severity and mishap probability.

The Mishap Probability is the probability that the identified safety concern will result in mishap, based on an assessment of such factors as location, exposure in terms of cycles or hours of operation, and the affected population. Based on the historical data of the 2016-2017 year of 3 suicide attempts in one year, the mishap probability was categorized as “frequent” and given the volume of PES and PSYCH admissions, would likely remain between Occasional and Frequent.

<b>Frequent: Likely to occur immediately or within a short period of time (may happen several times in a year)</b>
<b>Occasional: Probably will occur (may happen several times in 1-2 years)</b>
<b>Uncommon: Possible to occur (may happen sometime in 2-5 years)</b>
<b>Remote: Unlikely to occur (may happen sometimes in 5-30 years)</b>

The Hazard Severity is an assessment of the worst possible consequence, defined by degree of injury, occupational illness, or property damage which is likely to occur as a result of the identified safety concern. Based on the analysis following the three separate RCA events as well as information provided by February 2016 TJC Se alert # 56: Detecting and treating suicide ideation in all settings.

Effect	Injury	Regulatory	System/Services	Property/Equipment	Finance
<b>Catastrophic</b>	Death or permanent loss of function	Accreditation loss by regulatory body (i.e. TJC, NRC)	Total loss of system or services	Extensive damage to property or equipment (>\$250,000)	Extreme financial loss (>\$10 Million)
<b>Major</b>	Permanent lessening of function, temporary total disability	EPA violations possibly resulting in fines, OIG investigation	Major system damage/disruption in services	Major damage to property or equipment (\$100,000-250,000)	Major financial loss (\$5-10 Million)
<b>Moderate</b>	Injury/illness requiring medical/surgical intervention, lost workdays,	Multiple regulatory body violations or non-conforming to VA care standard	Moderate system damage/disruption in services	Moderate damage to property or equipment (\$10,000-100,000)	Moderate financial loss (\$500,000-5 Million)
<b>Minor</b>	First aid or minor supportive medical treatment	Singular regulatory body violations or non-conforming to consensus care standard	Minor system damage/disruption in services	Minor damage to property or equipment (<\$10,000)	Minor financial loss (<\$500,000)

Based on the Mishap Probability and the Hazard Severity, using the matrix shown below, the risk score is expressed as a single Arabic number that can be used to help determine hazard abatement priorities. It identifies the importance of the deficiency as categorized subjectively. For the PES, and unit 7B, using the RA matrix, the assessment concluded the space, specifically the hardware and fixtures within those spaces as pose imminent danger: therefore, a hazardous situation for which Risk Category 5 was assigned.

Severity & Probability	Catastrophic	Major	Moderate	Minor
Frequent	5	5	3	2
Occasional	5	4	2	2
Uncommon	4	4	2	1
Remote	3	3	1	1

Table Key: 5-Critical, 4-Serious, 3-Moderate, 2-Minor, 1-Negligible

**STEP 6: PRIORITIZE IMPROVEMENT OPPORTUNITIES**

Improvement priorities were identified:

- Suicide Screening Assessment
- Environmental safety Hardware/fixture replacement
- Suicide Assessment Communication (electronic and human)

**STEP 7: PLAN/DO IMPROVEMENTS**

- Completion of an environmental analysis to determine area that require improvements
- Adoption of a standardized evidence based suicide screening tool
- Implementation of Belonging Checklist during check- in
- Replacement of all hardware and fixtures to meet ligature resistance compliance
- Changing admission criteria to 7C to exclude actively suicidal patients
- Complete FMEA Part II for Prevention of Suicide in Inpatient Settings ( ED, ICU, Med- Surg)

## STEP 8: KEY IMPROVEMENTS COMPLETED

- All emergency and inpatient psychiatric units were evaluated using an evidence based tool to determine environmental safety; specifically hardware and fixture evaluation
- Unit 7C was evaluated and change in operations was implemented such that patient who are suicidal are moved to 7B
- Psychiatric Emergency Services (PES) adopted the Columbia Suicide Screening Tool to be used for all patients during arrival to the unit
- Development and implementation of a belonging checklist specific to intake process
- PES staff/providers were educated and trained on the Columbia Screening tool
- Replacement of all hardware and fixtures identified in the EOC – Ligature Risk Assessment for PES and 7B ( 105 items as identified in Step 4)
  - During implementation and replacement phase, ligature resistant door handles were fabricated by the Department of Engineering/Facilities until the procurement of new hardware by the manufacture
  - During implementation and replacement phase, interim safety measures were used, specifically staff/personal to serve as “safety watch” to monitor both hallways in 7B



# Employee Health & Safety Bulletin

Bulletin # 5

## Basic Cart Safety

### Basic Cart Safety:



1. **DO NOT** push and pull carts at the same time. Doing so puts you at risk of injury, by placing yourself in an awkward position. Don't become a human pretzel or Stretch Armstrong.
2. Push, rather than pull carts. Pushing utilizes your leg muscles. Pulling places your shoulder and back in an awkward position.
3. The only time you should pull a cart is if you are maneuvering through a doorway or entering/exiting an elevator. After clearing the obstacle, go back to pushing.

### Use Proper Technique:



1. Keep your elbows and forearms close to you.
2. Start your push with your legs. Guide your load with your shoulders and arms, do not use them to push.
3. Push "straight on" and avoid leaning too far forward while pushing.
4. Ensure that you can see while looking straight ahead. **Do Not Over stack!**

### Remember These Points:



1. Reduce the size and weight of loads. You should be able to easily start and stop moving the cart.
2. Carts get tired and break. See the back of this Bulletin for a generic inspection checklist.
3. Immediately notify your supervisor and red tag the equipment if maintenance is required.
4. Notify your supervisor if you need help.

For additional information contact: Environmental Health & Safety at 415-206-5482

## Cart Inspection Checklist

Inspected By: \_\_\_\_\_ Date: \_\_\_\_\_

Department: \_\_\_\_\_

If there are manufacturer's instructions for the inspection and safe use of your carts(s), always follow those instructions. Only use this checklist if no manufacturer's instructions are available.

Carts should be checked each time they're used. Documented inspections (i.e. this checklist) are suggested:

- If the cart is used daily for 4 or more hours – on a weekly basis
- If the cart is used daily – on a monthly basis
- All other carts – on a quarterly basis

		Remove From Service	
		OK	↓
1.	Cart is structurally sound - it doesn't flex, bend, or shimmy when loaded.		
2.	Cart parts aren't bent, broken, seriously rusted, or otherwise damaged.		
3.	Connections between parts of cart are tight.		
4.	Push/pull handles on cart are tightly connected to cart and don't show evidence of cracking or bending at connection points.		
	Push/pull handles don't move when cart is pushed or pulled.		
5.	Square cart handles are padded to protect user's hands.		
6.	Cart is free of exposed (sharp) edges which can cut or catch.		
7.	Wheels on cart freely spin. Wheels don't wobble.		
8.	Steering (pivoting) wheels on cart move freely, allowing cart to be maneuvered.		

Notes & Comments: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

# SECURITY MANAGEMENT

## REFERENCES:

- Joint Commission Accreditation Manual for Hospitals, Environment of Care Standards, EC.02.01.01
- California Code of Regulations, Title 8, Sections 8 CCR 3203 *et seq.*
- California Code of Regulations, Title 22, Sections 22 CCR 70738
- Health & Safety Code, Section 1257.1, 1257.8

## I. SCOPE

The scope of the Security Management Plan is to assure the ongoing provision of a safe, accessible, and secure environment for staff, patients, and visitors at Zuckerberg San Francisco General Hospital Campus. To that end, it is the overall intent of this plan to establish the framework, organization and processes for the development, implementation, maintenance, and continuous improvement of a comprehensive Security Management Program. This program is designed to provide protection through appropriate staffing, security technology, and physical barriers.

The scope of the Security Management program include:

- Continuous review of physical conditions, processes, operations, and applicable statistical data to anticipate, discern, assess, and control security risks, and vulnerabilities
- Ensure timely and effective response to security emergencies
- Ensure effective responses to service requests.
- Report and investigate incidents of theft, vehicle accidents, threats, and property damage
- Promote security awareness and education
- Enforce various hospital rules and policies
- Establish and implement critical program elements to include measures to safeguard people, equipment, supplies, medications, and traffic control in and around the hospital and the outlying medical offices.

Each management objective is listed in the table below, and is marked as met or not met. If an objective is not met, the DPH Director of Security will review the objective, and develop a corrective action plan.

## II. ACCOMPLISHMENTS

- Installation of 75 additional electronic security devices to monitor, and alarm all Building 5 stairwell exits.
- In collaboration with Facility Services, installed, in the tunnels, security gates/doors equipped with access control functionality
- The ED Security Weapons Screening Process resulted in confiscation of 3,466 weapons and contraband.
- Responded to 19,150 calls for patient/medical assist, patient standby, and patient restraint/support incidents.
- Exceeded the overall performance target for Code Green Response. Achieving 100% in each quarter.
- Exceeded the overall performance target for Electronic Security System Functionality. Accomplishing 98% system functionality over 2017 – 2018.
- Achieve 100% compliance in all elements of the SFDPH and SFSD MOU. In each of the monthly security provider performance surveys (SPS), the San Francisco Sheriff's Department exceeded the overall performance target.
- Reported serious incident crimes decreased 23% from 2016-2017

## III. PROGRAM OBJECTIVES

Objectives	Met / Not Met	Comments and Action Plans
<p>An annual review of the physical conditions, processes, operations, and applicable statistical data is conducted to anticipate, discern, assess, and control security risks, and vulnerabilities.</p> <p>A security management plan is developed, and monitored, quarterly to address security vulnerabilities, and minimize risk.</p>	Met	<p>A 2017-2018 security risk assessments was completed, and the security risks, vulnerabilities, and sensitive areas were identified and assessed through an ongoing facility-wide processes, coordinated by the DPH Director of Security, and hospital leadership. These processes were designed to proactively evaluate facility grounds, periphery, behaviors, statistics, and physical systems.</p>
<p>Ensure timely and effective response to security emergencies, and service request, including the enforcement of hospital rules and policies.</p>	Met	<p>The daily AOD reporting documents, and crime statistic reports support the effectiveness of security response to security emergencies, and service request.</p>
<p>Report and investigate incidents of theft, vehicle accidents, threats, and property damage.</p>	Met	<p>Through quarterly law enforcement (SFSD) reports, and Unusual Occurrence reports, investigations are initiated for all crimes against persons and property.</p>

Promote security awareness and education	Met	Through Environment of Care rounds, employees are provided security awareness training. Other security awareness and education programs include: Non-violent Crisis Intervention, and Security Alert publications.
Establish and implement critical program elements to include measures to safeguard people, equipment, supplies, medications, and traffic control in and around the hospital and the outlying medical offices.	Met	The Director of Security in partnership with the contract security provider, San Francisco Sheriff's Department, collaboratively establishes, and maintains communication and mutual ownership for outcomes, identification and troubleshooting of emergent safety concerns.

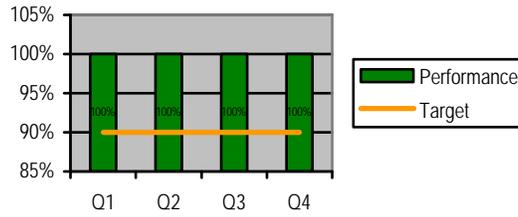
These objectives were reviewed and evaluated. They were found to be effective and will remain unchanged in 2018-2019. Additional program objectives will include significant reporting of threat/workplace violence incidents, and campus stairwell rounding.

#### IV. PERFORMANCE

The 2017-2018 performance metrics to measure the Security Management Program included, SFSD Response to Code Green “At Risk” Patients, Customer Satisfaction, and Electronic Security System Functionality.

Performance Metrics #1 Code Green, “At Risk” Patient Alert Response Incidents/Drills	Q1	Q2	Q3	Q4
<b>Performance Metric:</b> The contract security provider will be measured on their ability to effectively respond i.e. initial perimeter search, and notification of SFPD, BART, and MUNI as applicable, and documenting the search activity:  <b>Response-rate Threshold – 80%</b> <b>Response-rate Target – 90%</b> <b>Response-rate Stretch – 100%</b>	100%	100%	100%	100%

**Code Green Response Rate Performance**



**SFSD Response Rate** – Exceeded the target in each quarter, achieving 100%.

<b>Performance Metrics #2</b>	<b>Q1</b>	<b>Q2</b>	<b>Q3</b>	<b>Q4</b>
<p><b>Customer Satisfaction</b></p> <p><b>Performance Metric:</b></p> <p>On a monthly basis, a sample size of 100 customers, consisting of patients, visitors, employees, and physicians that had a recent contact with Security, will be surveyed on their experience.</p> <p>The Security Department will be measured on its ability to achieve a rating of Satisfied - Very Satisfied:</p> <p>Threshold - 80%                      Target - 90%                      Stretch – 98%</p> <p style="text-align: center;">Customer Satisfaction Performance</p> <p><b>Customer Satisfaction Results</b> – The overall satisfaction rate for the year was 73%. Quarters 2 – 3 were based on feedback from hospital employees. Quarter 4 was based on feedback from patients and visitors.</p>		<b>84%</b>	<b>57%</b>	<b>77%</b>

<b>Performance Metrics #3</b> <b>Electronic Security System Functionality</b>	<b>Q1</b>	<b>Q2</b>	<b>Q3</b>	<b>Q4</b>															
<p data-bbox="235 304 467 331"><b>Performance Metric:</b></p> <p data-bbox="235 359 883 415">On a monthly basis the SOC will inspect every element of the electronic security system for functionality.</p> <p data-bbox="235 443 989 499"><b>Target:</b> 100% Electronic Security will be inspected, and will be 98% functional.</p> <div data-bbox="396 520 980 856"> <p data-bbox="472 520 751 548" style="text-align: center;">Security System Functionality</p> <table border="1" data-bbox="396 590 980 856"> <caption>Security System Functionality Data</caption> <thead> <tr> <th>Quarter</th> <th>Functionality (%)</th> <th>Target (%)</th> </tr> </thead> <tbody> <tr> <td>Q1</td> <td>94%</td> <td>98%</td> </tr> <tr> <td>Q2</td> <td>99%</td> <td>98%</td> </tr> <tr> <td>Q3</td> <td>100%</td> <td>98%</td> </tr> <tr> <td>Q4</td> <td>99%</td> <td>98%</td> </tr> </tbody> </table> </div> <p data-bbox="235 890 989 947"><b>Electronic Security System Results</b> – Exceeded the overall performance target for 2017-2018 by achieving 98%.</p>	Quarter	Functionality (%)	Target (%)	Q1	94%	98%	Q2	99%	98%	Q3	100%	98%	Q4	99%	98%	<p data-bbox="1031 304 1084 331"><b>94%</b></p>	<p data-bbox="1135 304 1188 331"><b>99%</b></p>	<p data-bbox="1230 304 1284 331"><b>100%</b></p>	<p data-bbox="1326 304 1380 331"><b>99%</b></p>
Quarter	Functionality (%)	Target (%)																	
Q1	94%	98%																	
Q2	99%	98%																	
Q3	100%	98%																	
Q4	99%	98%																	

## V. EFFECTIVENESS:

The functional effectiveness of the 2017-2018 Security Management Plan was reviewed and found to be effective.

Additionally, performance in significant reporting metrics demonstrated the plan's effectiveness: SFSD continues to serve an active role in supporting medical and nursing staff with patient-care issues.

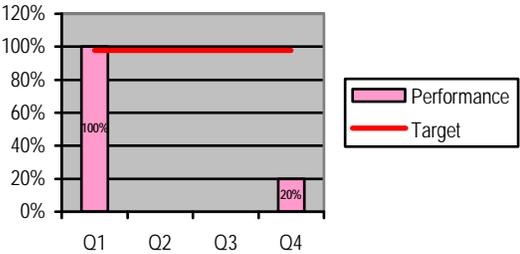
Increased patrols have aided in addressing the vulnerabilities identified by the security risk assessment. The Security Management Plan achieved the following significant reporting results:

### SIGNIFICANT REPORTING:

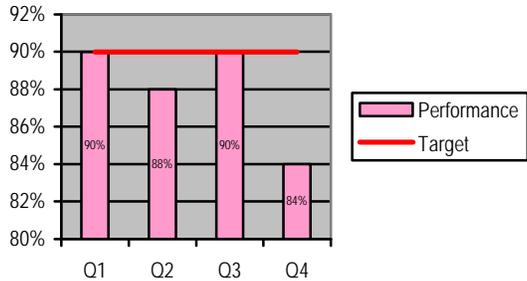
DPH and SFSD, MOU Performance Metrics	Q1	Q2	Q3	Q4															
<p><b>Performance Metric:</b></p> <p>A monthly security provider performance survey (SPS) will be completed, and submitted to DPH and SFSD Leaders. The assessment is intended to validate the security provider's compliance with MOU obligations, operational performance, management responsibilities and finance provisions.</p> <p>The provider is expected to maintain scores in the 3-5 range. A score of 1 to 2 indicates that a problem or issue exists that needs to be immediately addressed. A score of 0 indicates a substantive problem or issue that requires immediate correction or resolution.</p> <div data-bbox="289 1129 803 1470"> <p style="text-align: center;">DPH-SFSD MOU Performance Metrics</p> <table border="1" style="display: none;"> <caption>DPH-SFSD MOU Performance Metrics Data</caption> <thead> <tr> <th>Quarter</th> <th>Target</th> <th>Performance</th> </tr> </thead> <tbody> <tr> <td>Q1</td> <td>3.5</td> <td>4.2</td> </tr> <tr> <td>Q2</td> <td>3.5</td> <td>4.6</td> </tr> <tr> <td>Q3</td> <td>3.5</td> <td>4.7</td> </tr> <tr> <td>Q4</td> <td>3.5</td> <td>4.3</td> </tr> </tbody> </table> </div> <p>Each line item in the MOU is given a value, which ranges from "1 to 5." SFSD was measured on their ability to maintain scores in the 3-5 range. The overall MOU compliance for the year was 4.5.</p>	Quarter	Target	Performance	Q1	3.5	4.2	Q2	3.5	4.6	Q3	3.5	4.7	Q4	3.5	4.3	<p><b>4.2</b></p>	<p><b>4.6</b></p>	<p><b>4.7</b></p>	<p><b>4.3</b></p>
Quarter	Target	Performance																	
Q1	3.5	4.2																	
Q2	3.5	4.6																	
Q3	3.5	4.7																	
Q4	3.5	4.3																	

Infant Abduction Drills (Code Pink)	Q1	Q2	Q3	Q4
<p><b>Performance Metric:</b></p> <p>The hospital will be measured on its ability to prevent an abductor from leaving the facility:            Capture-rate Threshold –90%            Capture-rate Target – 98%            Capture-rate Stretch – 100%</p> <p>The facility will be measured on its ability to respond to a Code Pink. Hospital personnel should be posted at the designated areas, as described in the Code Pink Policy.            Response-rate Threshold – 80%            Response-rate Target – 90%            Response-rate Stretch – 100%</p>	100%			20%
	90%	88%	90%	78%

Code Pink Capture Performance



Code Pink Facility Response Performance

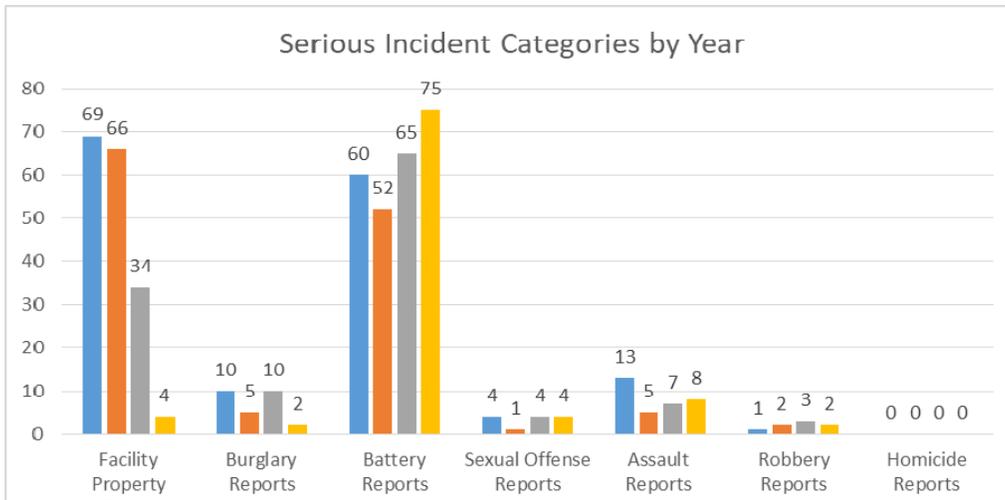


**Infant Abduction Drills (Code Pink)** – Based on the quarterly drills, the overall abductor capture rate for the year was 60%. The overall facility response rate for the year was 87%.

Serious Incident Reporting	Q1	Q1	Q2	Q2	Q3	Q3	Q4	Q4
	2016-2017	2017-2018	2016-2017	2017-2018	2016-2017	2017-2018	2016-2017	2017-2018
SFSD - Facility Theft Reports	10	1	16	1	0	1	8	1
SFSD - Burglary Reports	3	1	2	0	4	1	1	0
SFSD - Battery Reports	22	23	17	12	15	17	11	23
SFSD - Sexual Offense Reports	1	2	0	0	1	0	2	2
SFSD - Assault Reports	3	0	2	4	0	0	2	4
SFSD - Robbery Reports	1	2	0	0	2	0	0	0
SFSD - Homicide Reports	0	0	0	0	0	0	0	0
<b>Total Reports</b>	<b>40</b>	<b>29</b>	<b>37</b>	<b>17</b>	<b>22</b>	<b>19</b>	<b>24</b>	<b>30</b>

Comparing 2016-2017 and 2017-2018 serious incidents decreased by 23% (28-incidents.) Battery incidents were the primary driver for the increase during this period. Risk patients in ED and PES were the contributing factors for these crimes. Facility property thefts was the second most frequent incidents reported, which is contributed to the lack of electronic security systems monitoring the medical office buildings.





1. Since 2014, serious incidents have continued to decrease by 39%.

Contributing factors including:

- An effective security personnel resource plan
- The collaborative efforts, communication, and mutual ownership by the DPH Director of Security and the SFSD Unit Commander in identifying, and troubleshooting emergent safety and security concerns, and the effectiveness of the Security Awareness Program, which has resulted in an increase reporting of incidents by hospital employees.

2. Battery incidents continue to increase due to risk behavior demonstrated by patients against staff, mainly in Patient Emergency Services (PES,) and the Emergency Department.

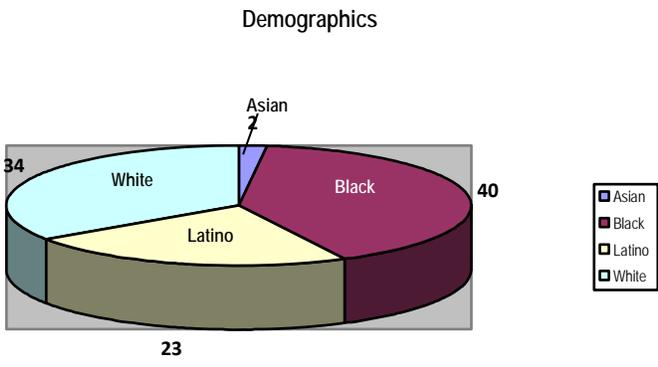
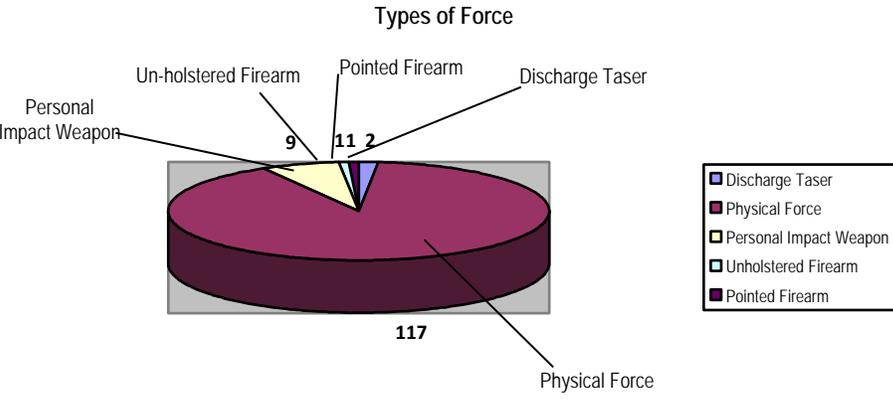
Non-Violent Crisis Intervention (CPI) training in team scene management, and team physical hold intervention is highly recommended.

**2017-2018, Use of Force Statistics**

<b>Q1</b>	<b>Q2</b>	<b>Q3</b>	<b>Q4</b>
-----------	-----------	-----------	-----------

Monthly use-of-force data is tracked of all SFSD incidents occurring on ZSFG campus. In 2017-2018, there were 127 incidents involving use-of-force, which is broken down under the following categories:

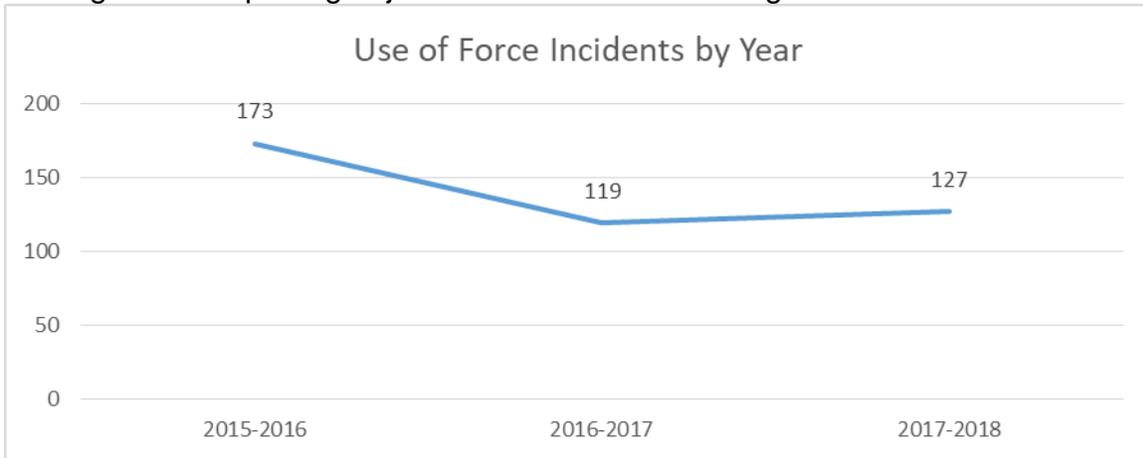
1. Type of Force
2. Number of incidents
3. Cases
4. Location
5. Demographics



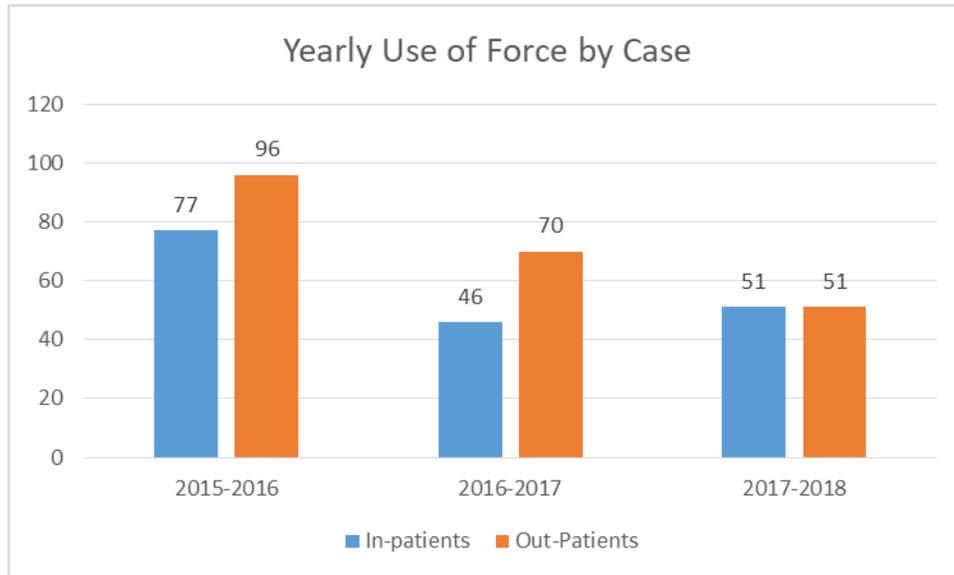
<p><b>* Type of Force</b></p> <ul style="list-style-type: none"> <li>Physical Force – 117</li> <li>Un-holstered Firearm – 1</li> <li>Pointed Firearm - 11</li> <li>Discharge Taser - 2</li> <li>Deploy Taser - 1</li> <li>Personal Impact Weapon – 9</li> </ul>	<p><b>Cases</b></p> <ul style="list-style-type: none"> <li>Patients – 51</li> <li>Non Patients – 51</li> </ul>	<p><b>Demographics</b></p> <ul style="list-style-type: none"> <li>Males – 85</li> <li>Females – 17</li> <li>Asian – 2</li> <li>Black – 40</li> <li>Latino – 23</li> <li>White - 34</li> </ul>	<p><b>Locations</b></p> <ul style="list-style-type: none"> <li>Emergency – 43</li> <li>PES – 16</li> <li>Psych Wards – 8</li> <li>Building 25 – 6</li> <li>Building 5 - 8</li> <li>Campus Buildings – 7</li> <li>Public Streets – 9</li> </ul>
---	--	---	--

*\* The numbers do not equal by category. There are incidents where more than one type of force was used on an individual at a given location.*

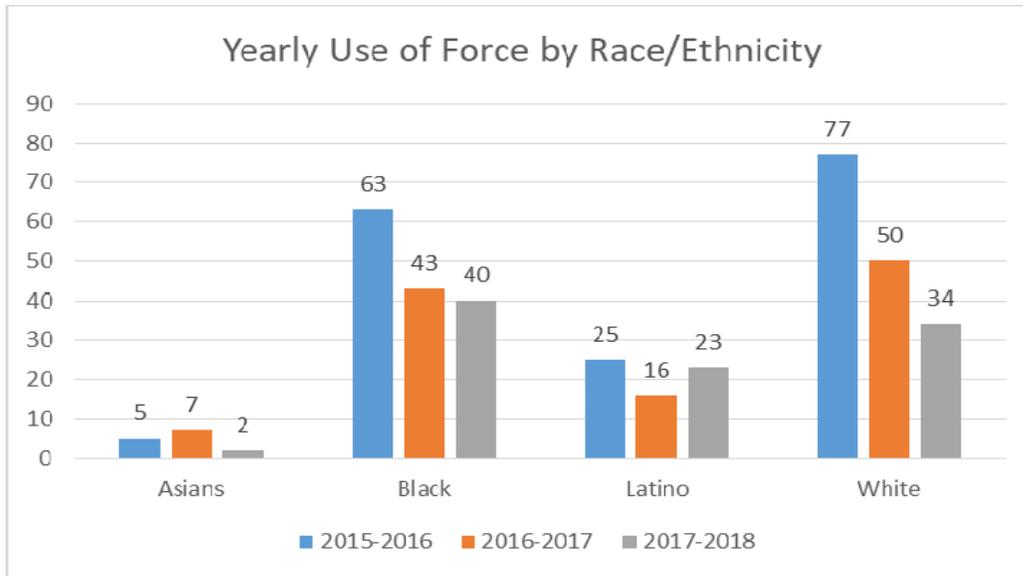
The significant reporting objectives will remain unchanged in 2018-2019.



Comparing 2015-2016 with 2016-2017, use-of-force incidents decreased by 31%. Use of force incidents increased 6% from 2016-2017 to 2017-2018.

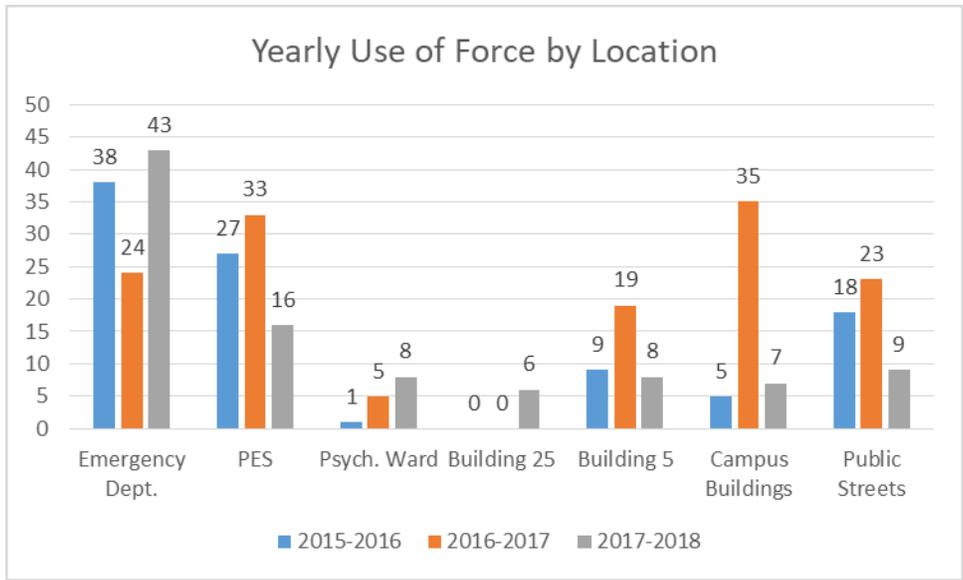


Over a three year period, an average of 58 in-patients were subject to use of force, and 72 out-patients.



Over a three year period, the percentage of persons subject to use of force by race/ethnicity is as follows:

- Asians - 4%
- Black/African American – 38%
- Latino – 17%
- White – 42%



Over a three year period, the percentage of use of force incidents occurred in following locations:

- Emergency Department - 31%
- PES – 23%
- Psych. Ward – 4%
- Building 25 – 2%
- Building 5 – 11%
- Campus Buildings – 14%
- Public Streets – 15%

*This Page Intentionally Left Blank*

# UTILITY SYSTEMS MANAGEMENT

## SCOPE

The Zuckerberg San Francisco General Hospital Facility Services Department implements and maintains the Utility Management chapter of the Environment of Care. The Utility Management Program ensures the operational reliability and assesses the special risks and responses to failures of the utility systems which support the facility's patient care environment. The major utility systems include but are not limited to: electrical distribution, domestic water and waste water systems, vertical transportation, communication systems, HVAC, and medical gases.

## ACCOMPLISHMENTS

- Overhauled Chiller #1 in Bldg 2 (Power Plant) to extend equipment life cycle.
- Organized elevator service contracts for the ZSFG Campus under a single vendor (goal met).
- Supported Bldg 5 transition projects including, Urgent Care Clinic phase I (awaiting licensing), UCC phase II (in process), 6H surge space (in process), Bldg 5 Seismic upgrade (in progress), Bldg 5 Dialysis center (in progress), Bldg 5 Physical Therapy move (in progress), Bldg 5 Electrical distribution upgrade (opening phase), Bldg 5 Mechanical systems upgrade (opening phase), ZSFG Fire Alarm system upgrade (opening phase), et al.
- Supported Bldg 25 Hybrid MRI project to successful completion (currently awaiting licensing).

## PROGRAM OBJECTIVES FOR FY 2017-2018

Objectives	Met / Not Met	Comments and Action Plans
The hospital maintains a written inventory of all operating components of utility systems or maintains a written inventory of selected operating components of utility systems based on risks for infection, occupant needs, and systems critical to patient care (including all life support systems.)	Met	Inventory of equipment for major utility systems maintained in equipment database.
The hospital identifies, in writing, inspection and maintenance activities for all operating components of HVAC systems on the inventory	Met	Documentation of activities is entered into the automated work order system.
The hospital labels utility system controls to facilitate partial or complete emergency shutdowns.	Met	Utility isolation information located at the Engineering Watch Desk.
The hospital inspects, tests, and maintains emergency power systems as per NFPA 110, 2005 edition, Standard for Emergency & Standby Power Systems.	Met	Testing and inspection of this new system per NFPA 110, 2005 edition

The hospital inspects, tests, and maintains critical components of piped medical gas systems, including master signal panels, area alarms, automatic pressure switches, shutoff valves, flexible connectors, and outlets. These activities are documented.	<b>Met</b>	The medical gas system is certified annually. Area alarm panels are checked monthly. Documentation is provided by separate report.
Annual evaluations are conducted of the scope, and objectives of this plan, the effectiveness of the programs defined, and the performance monitors	<b>Met</b>	Scope and objectives derived from quarterly report data.

Report Indicator	FY 2017-2018 Totals					
	5	25	80	90	100	SB
<b>Systems</b>	5	25	80	90	100	SB
Emergency Power Failures	0	0	0	0	0	0
Commercial Power Failures	0	0	0	0	0	0
Water System Failures						
<b>Domestic</b>	0	0	0	0	0	0
<b>Waste</b>	5	0	0	0	0	0
Communication Failures	0	0	0	0	0	0
HVAC Failures	1	0	0	0	0	0
Med Gas Failures	0	0	0	0	0	0
Elevator Failures	12	18	1	0	2	0
High Voltage Electric Switchgear	0	0	0	0	0	0

The Environment of Care Committee has evaluated the objectives and determined that they have been met. The Program continues to direct utilities management awareness in a proactive manner.

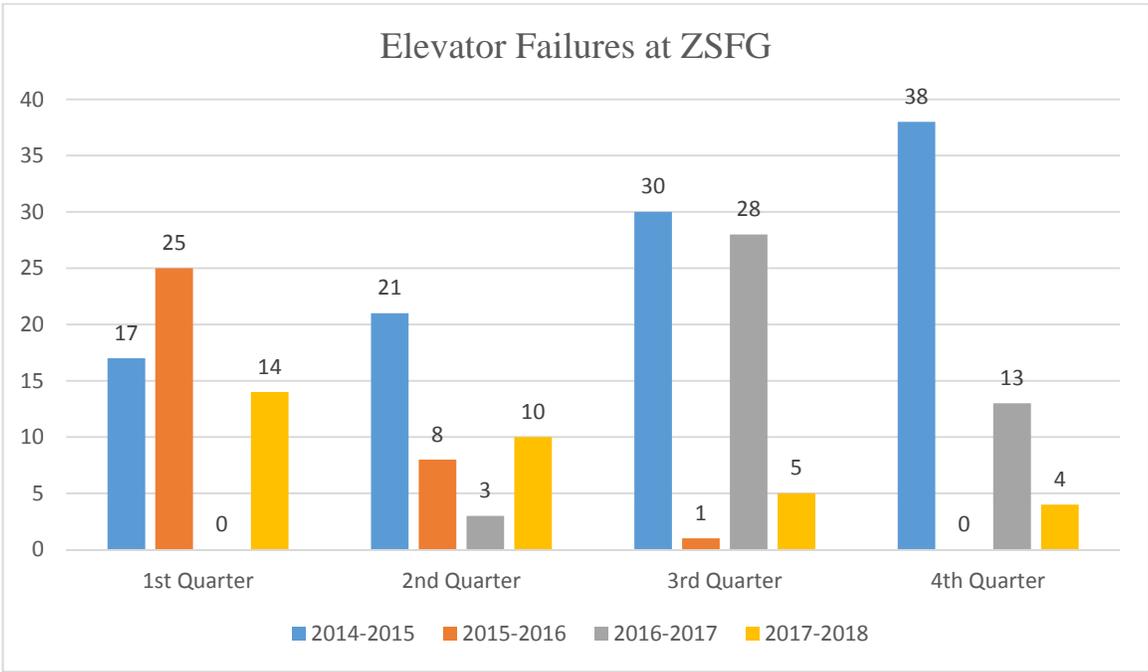
## PERFORMANCE METRICS

### Elevator Failures

**AIM:** For FY 2018-19, to continue the reduction in elevator failures on Campus another 10%.

### Elevator Failures

Elevator Failures	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	Action
Elevator outages of 4-hours plus in duration, or passenger entrapment of any duration, (33 total cars)	13	10	5	4	Monitor for trends



**AIM:** For FY 2018-19 continue to manage and monitor outage trends with an overall goal of 10% reduction in elevator outages.

**EFFECTIVENESS**

The Utility Management Program is considered effective.

Proposed Performance Metrics for 2018-2019	Target	Comments and Action Plan
<b>AIM:</b> manage elevator failures at ZSFG to a minimum through contract unification	<b>10% reduction from 2017-18 level.</b>	Manage and monitor elevator outage trends.
<b>AIM:</b> Engage staff and contractors to review & implement the 2016 bond measure projects pertaining to the utility system.	<b>ZSFG staff engaged in all project work.</b>	Involve stake holders in project implementation.

**GOALS AND OPPORTUNITIES FOR IMPROVEMENT IN 2018-19**

- Implement the chiller replacement project in Bldg 2.
- Implement the cooling tower replacement project in Bldg 2.
- Further develop with the assistance of the project management team the replacement project for the main switchgear, and electrical distribution system in Bldg 5.
- 2 sections of Bldg 5 roofing were replaced in FY 2017-2018. Replace another section on Bldg 5 in FY 2018-2019.